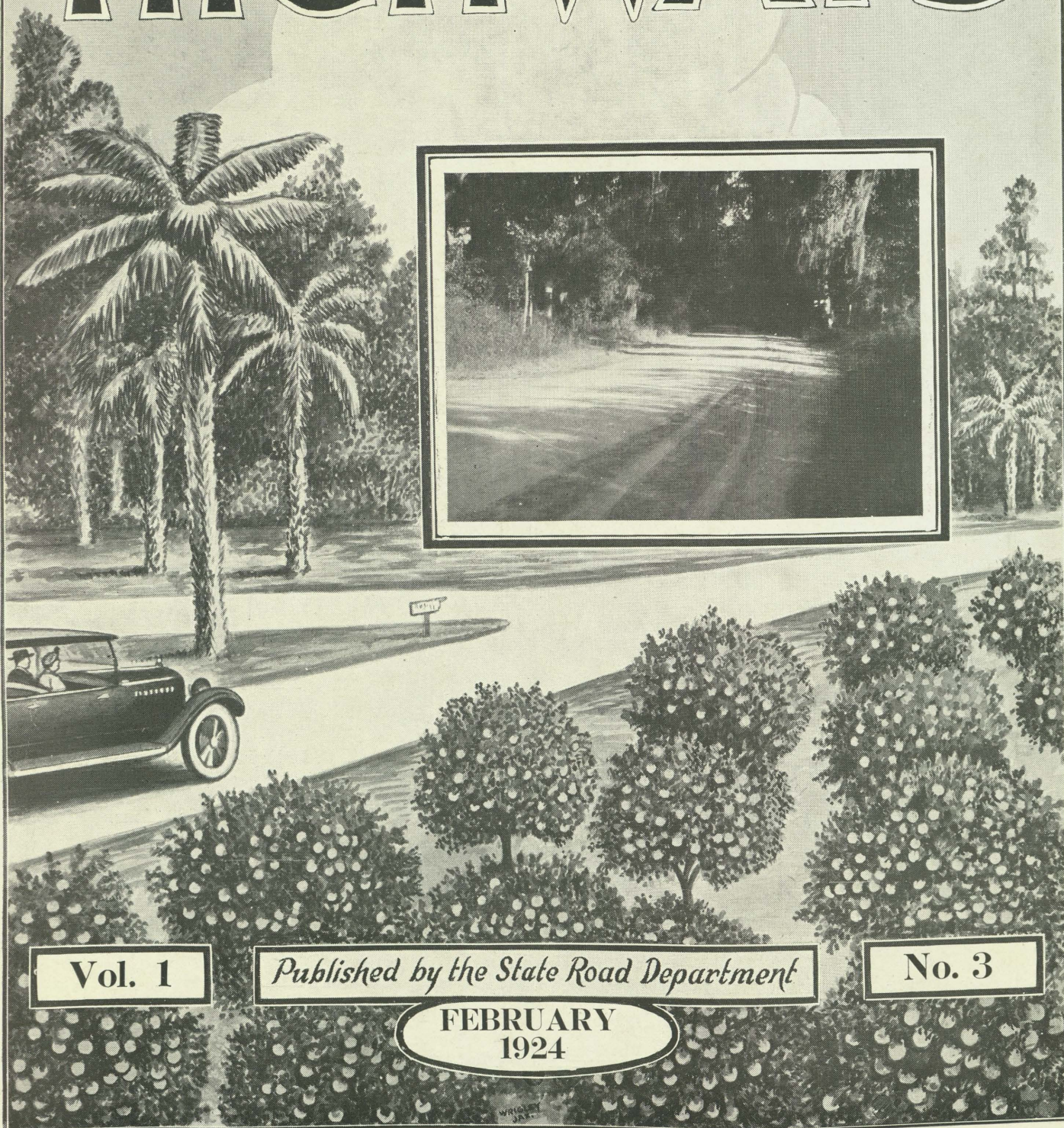


FLORIDA HIGHWAYS



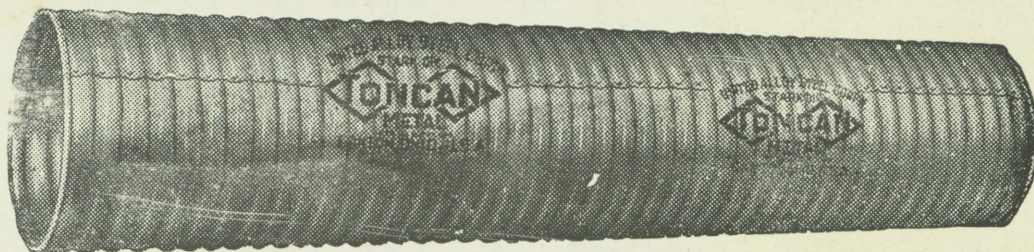
Vol. 1

Published by the State Road Department

No. 3

FEBRUARY
1924

Toncan Metal Round Riveted Culverts



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E. W. ELLIS, President. C. G. ROSE, Sec'y-Treas.

Ocala Lime Rock Co.

INCORPORATED

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LIME ROCK QUARRIES

Kendrick, on A. C. L. R. R. Santos, on S. A. L.
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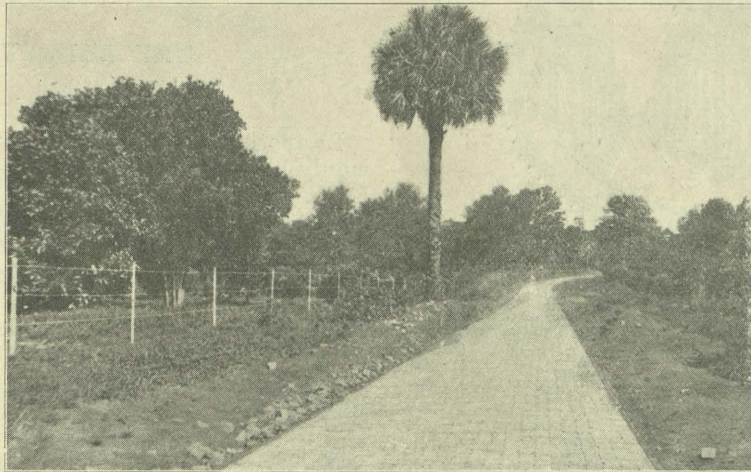
Daily Capacity Plants, 2,000 Tons.

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Telegraph: Ocala. Phone 264.

FLORIDA HIGHWAYS



Vol. 1

FEBRUARY, 1924

No. 3

(Application for entry as second-class matter at the post office at Tallahassee, Florida, pending.)

Material Received from the Federal Government Estimated at \$2,500,000 in the State of Florida

Material Received at the Rate of Twenty-five Cars Per Month

The Largest Automotive Repair Plant in the State Operated by the State Road Department,
Located Two and One-half Miles Northeast of Gainesville

By JOSEPH PETERS, Superintendent of Equipment

The Equipment Division of the State Road Department is located two and one-half miles northeast of Gainesville and takes in fifteen acres of ground. It is surrounded by a fence fourteen feet high, the material for which was received from the Federal Government.

Two shop buildings are sixty-five by one hundred feet, constructed of 95% of material received from the Federal Government at a cost of \$16,000, including the construction and such necessary machinery as lathes, drill presses, planers, milling machinery, grinders, etc., one for the repairing of automobiles and one for the manufacturing of bodies, upholstering and painting. These buildings are as nearly fire-proof as is possible, and do not carry any operation that will cause the use of flame, other than a blow-torch used for soldering purposes.

In another shop, thirty by one hundred and fifty feet in size, is carried on the operations necessary for the repair of tractors, and also contains a blacksmith shop and an acetylene shop with the equipment necessary to carry on these operations. Here is also located the radiator repair department. These

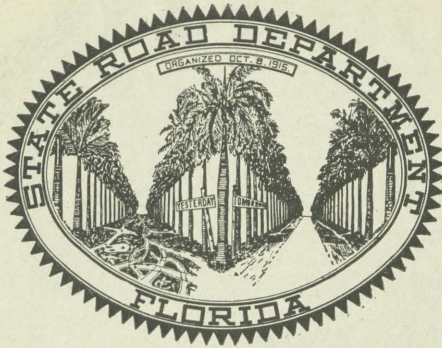
buildings are cheaply constructed so that in case of fire the State would sustain but little loss.

One stock room, sixty-five by one hundred feet, was constructed at a cost of \$8,230.73. This stock room is equipped with Berloy metal shelving for the housing of automotive parts and accessories and stocking of convict supplies. This particular building is used for the receiving of all material coming into the plant, and the shipping of materials throughout the State to the five division engineers and various project engineers.

Twelve warehouses, forty by one hundred feet, are used for the storing of this two and a half million dollars worth of material which was received from the Federal Government. These buildings are temporarily constructed of two by fours and four by fours and covered with canvas, but will later be covered with corrugated iron.

The Equipment Division being two and one-half miles from Gainesville, we are not supplied with city water or lights, and find it necessary to furnish our own water supply and telephone power line to the

(Continued on Page Four)



Florida Highways

Published Monthly
Official Publication of the State Road Department

PERSONNEL OF DEPARTMENT

H. B. PHILIPS, *Chairman*

W. J. HILLMAN

I. E. SCHILLING

E. P. GREEN

W. M. CORRY

ELLA CREARY THOMPSON, *Secretary*

PERSONNEL OF EMPLOYEES IN GENERAL CHARGE OF THE WORK OF THE DEPARTMENT

Engineering Division

| | |
|----------------------|------------------------------|
| J. L. Cresap..... | State Highway Engineer |
| L. K. Cannon..... | Ass't State Highway Engineer |
| G. L. Derrick..... | Bridge Engineer |
| Harvey A. Hall..... | Testing Engineer |
| F. W. Berry, Jr..... | Office Engineer |
| Joseph Peters..... | Supt. of Equipment |
| R. L. Bannerman..... | Div. Engr. 1st Division |
| John R. Stewart..... | Div. Engr. 2nd Division |
| H. C. Green..... | Div. Engr. 3rd Division |
| L. B. Thrasher..... | Div. Engr. 4th Division |
| A. W. Kinney..... | Div. Engr. 5th Division |

Accounting Division

| | |
|------------------------|------------|
| S. L. Walters..... | Auditor |
| Bettie V. Herring..... | Bookkeeper |
| Jewell Smith..... | Bookkeeper |
| C. J. Camp..... | Bookkeeper |

This magazine is edited in the offices of the State Road Department, Tallahassee, and published monthly. Subscription rate, one dollar per year. Permission is granted to republish, with proper credit, the matter contained herein.

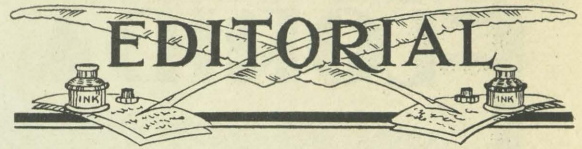
Application has been made for transmission through the mails as second-class matter.

B. A. Meginniss, Attorney for the Department,
Editor and Business Manager

Volume 1

February, 1924

Number 3



THE BUDGET LAW

In another column we are presenting what is commonly known as the State Road Department Budget Law. This was an act passed by the last legislature and designed to enable the Department to outline with certainty the work to be done in any given year, taking into consideration the revenues to be expected, the liability of the Department for contracts already let, and the fixed charges, such as maintenance of convicts, etc.

The law provides, in brief, that the Department shall at its January meeting lay out a budget of work. This proposed budget must then be advertised in newspapers in certain designated cities, and within not more than sixty days from its adoption a public hearing must be held by the Department to hear complaints, suggestions, etc. Thereafter the final budget is adopted.

In pursuance of the provisions of this statute, the Department will, at its meeting to be held this month, adopt the tentative or preliminary budget. This will be advertised as required by law, and the public hearing provided for will be held probably in March at a place to be designated by the Department at the January meeting. It is probable that this public meeting will be held at Orlando or in that vicinity.

When one takes into consideration the various amounts which must be paid from the 1924 revenues on account of contracts already let, the maintenance of convicts and convict camps, it is readily apparent that there will not be any considerable sum to budget. Estimates made by the engineering force show that the amount of 1923 contracts to be paid in 1924 totals \$4,952,362.00. The maintenance of convicts, provision for camp equipment, etc., in 1923, amounted to approximately \$275,000.00, and it will probably require a similar sum for that purpose in 1924.

It is to be recalled that the preparation of the budget of work is further limited by the law designating Florida's highway system, which provides that the available funds shall, with certain limited exceptions, be expended upon certain designated roads.

When all these factors are taken into consideration, it seems doubtful if there will be any considerable number of new contracts let during 1924.

LITTLE MANATEE RIVER BRIDGE

The handsome bridge shown on the back cover page of this issue is the Little Manatee River Bridge in Hillsborough county, on Road No. 5, which was recently completed. This bridge is of reinforced concrete arch construction, is 215 feet in length, with a twenty-foot roadbed. It was known as Federal Aid Project 29-B and was constructed with Federal and State funds.

Chairman's Column

SAND-CLAY ROADS

Among those interested in the matter of highway building there is some discussion as to the advisability of building what are termed sand-clay roads. It is claimed by some that no sand-clay road can properly be said to be a "good" road, and that it is a waste of money to build this type of road. On the other hand, it is contended that under certain circumstances the building of this type of road is the practicable and economical thing to do.

Whether any particular type of road surfacing should be used depends on a number of conditions—financial ability, availability of materials, and the demands of travel and highway transportation. If you haven't sufficient funds to build one of the higher types of hard surfacing, then it would be better to build a sand-clay road (if the material is available) than build no road at all. And again, the building of an expensive hard-surfaced road is not always warranted by the demands of travel and highway transportation in the locality where the road is to be built. Some of our road "boosters" contend that it pays to build expensive roads anywhere and everywhere. This view, we do not think, can be maintained. It has been well said that no road should be built or improved at a cost greater than its actual value to the public. The measure of that value is the return the road will give in economic highway transportation. This certainly ought to be the rule that should govern a state road department. It may be well at times for local communities and local interests to build expensive roads to develop sections and interests which are wholly

local in character, but the State Road Department should look to the needs and demands of general state travel.

This department is building sand-clay roads in sections where clay of good quality is to be had in easy hauling distance. These roads are so planned and built that nothing is wasted. It may be said that we are following the plan of "stage construction" to which reference was made in our last issue. Everything up to the point of surfacing is done just as though the road was to receive a permanent hard surface. The location, alignment, drainage and drainage structures are all permanent work. Nothing is lost. Nothing will have to be torn away and wasted, when at some future time the permanent hard surface is put on. Even the sand-clay surface may be used to form a part of the permanent base.

To those who may be disappointed because we are building through their county a sand-clay instead of an expensive hard-surfaced road, it might be well to point out that we are trying to build as many miles of good roads in order to serve as much territory as possible. If we spend all our money building an expensive road through your county, the neighbor just over the county line might not get any road at all. Then, too, it will be well to remember that there are sand-clay roads and so-called sand-clay roads. Drive over the roads usually built by the counties and then over one built according to the plan and specification of the State Department and note the difference. The one can never be made a good road, because of the lack of the proper foundation. The other is a highway that can at all times be maintained in good condition for travel.

THIRTY-SIX MILES IN THIRTY-SIX HOURS

The Anniston, Ala., Star has recently been advocating the building of good roads in Calhoun county. A little bit of news which we can give to the Star may prove the wisdom of its advocacy.

A few weeks ago an Anniston family started out of that town to motor to Florida. Their journey led through Calhoun county, in which Anniston is located, and Cleburne county. During the first day and a half they "negotiated," as automobilists say, exactly 36 miles. Mud, impassible, impossible mud, delayed them over and over again, until at last in the closing hours of the second day, 36 miles away from town, they found it necessary to spend the night in a little farm-house by the roadside, which could accommodate a portion of the family, but one of them, who was acting as chauffeur, had to spend the night in the car.

That was a sample of bad roads, and many equally as bad can be found in many other Southern states.

Finally, however, these motorists succeeded in reaching Florida, and on their first day's journey in that state, over one of its splendid highways they covered 225 miles without hard driving or late hours. A day and a half for 36 miles in Alabama! Less than half a day, or about twelve hours, easily covered 225 miles on a good road!

Another Alabama man visiting Florida a few days

before these folks arrived, commented with amazement upon the fact that some counties in Florida had issued as high as \$3,000,000 of county bonds for road building. "Why," said he, "if in Alabama a county was asked to issue \$300,000 of bonds for road building the people would think that they were being ruined!" And yet every Florida county which in times past has made big issues of bonds for road building has found the investment so exceedingly profitable, if regarded only from the strictly business standpoint, that every new bond issue is overwhelmingly approved.

When will all Southern states match in their road building campaign and in the broadness of their vision, and their readiness to spend money for good roads, the states of Maryland and North Carolina and Florida? Some other states are doing fairly well, but we believe no other state in the South, in proportion to its population and wealth, has come anywhere near matching the work of the three states named, and their abounding prosperity has largely come as a result of good road building.—Manufacturers Record.

The city of Tampa, Fla., has awarded contract to Cone Bros., of Tampa, for the construction of 44,000 square yards of asphalt block paving in the Palma Ceia section of the city. The cost of the entire project will be about \$175,000.—Manufacturers Record.

MATERIAL RECEIVED FROM THE FEDERAL GOVERNMENT ESTIMATED AT \$2,500,000 IN THE STATE OF FLORIDA

(Continued from Page One)

city limits. We have a well that is 415 feet deep and a surface reservoir of 150,000 gallons capacity, with an overhead tower of 100 feet in height, with a tank capacity of 50,000 gallons. This gives the Equipment Division a 200,000 gallon water supply in case of emergency and fire protection. The tower furnishes water throughout the plant without the operation of machinery, with a pressure of thirty pounds.

Organization of Plant

The Equipment Division is divided into the following sections: Superintendent of equipment, Joseph Peters, in charge of plant; James H. Nelson, purchasing agent; A. S. Casseaux, accounting department; W. F. Prince, Jr., foreman shops and repair departments; J. F. Hudson, in charge of storage, receiving and issuing of materials; and A. L. Gilbert, in charge of Camp No. 7, located on ground immediately adjoining the Equipment Division plant. The convict camp is 300 feet square, with the necessary housing for 75 convicts, five convict guards, and its captain, with the dining rooms and kitchen sufficiently large to take care of approximately 80 convicts. At the present time there are

while all purchases for over \$100 are referred to the Tallahassee office of the State Road Department and advertised for competitive bids for furnishing the materials wanted. In this manner the best quality material is had for the least possible expenditure of money.

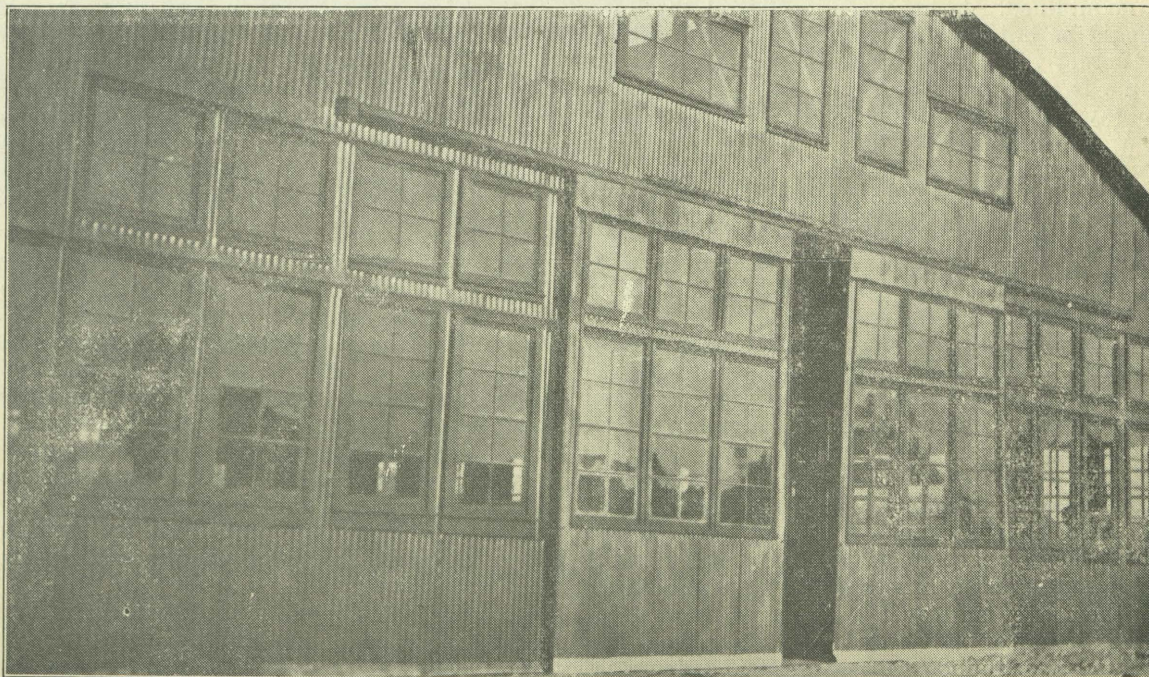
Accounting Department

The accounting department of the Equipment Division has two large office buildings, twenty by forty feet in size, one being operated by the superintendent of equipment and purchasing department, and the other operated by the accounting force.

The accounting end of the plant is in the hands of an accounting force, who audit and approve all bills for payment, keep a record of all equipment, and are able at all times to give the location of any part of it, from a cotter key to a ten-ton tractor. They also handle the cost of repairing and rebuilding of any equipment and can state the amount any piece of equipment earns.

They also keep an account of the material received and shipped out of the plant, as to where it is shipped and for what purpose it is used.

It might be said here that the shop department and the accounting force of the plant work entirely in harmony, and no friction is allowed to enter between these two departments at any time. In this connection it might be said that the shop department



Equipment Division—Wood Working Shop.

stationed at this camp 45 prisoners, all white, who assist in the work around the plant and keep up the roads and buildings around the yards of the Equipment Division, and do other work outlined by their captain.

Purchasing Department

The purchasing department is at all times fully conversant with the market conditions, the best and cheapest, and most suitable for the needs of the work at hand. All purchases for less than \$100 are bought from the closest dealer or jobber who can furnish

the materials quickest and give the best quality, has rendered splendid co-operation in the installation of such systems for the betterment of the organization as a whole.

Repair Department

W. F. Prince, Jr., is foreman of the repair department and handles all equipment coming to the plant for repairs. He has an efficient force of mechanics and mechanics' helpers to carry on the operations of his department, and the care and efficiency with which Mr. Prince has carried on this department is

reflected in the confidence the management has placed in him.

Storage

J. F. Hudson, who is in charge of the storage of all materials and shipping of such materials, has had various experience in different lines of work connected with the State Road Department and has been with the department for more than three years, covering several branches of the service. Mr. Hudson and his men are acquainted with the materials received and can tell at a glance what any particular part or piece of material received is used for, and use the most careful observation to see that each piece is placed in the proper bin or receptacle, in order that it may be located immediately for shipment when necessary.

Testing Laboratory

There is a laboratory building under construction that is fifty by one hundred feet and comes under the direction of Harvey A. Hall, the testing engineer for the State. This building will be completed about January 15th and will consist of office requirements, chemical laboratory, asphalt and concrete laboratory, as well as large storerooms where supplies will be kept and samples stored for three months in case any question arises regarding quality of materials. The work of the testing division consists of testing samples of all types of materials going in road and

following assistants: R. L. Jenkins, K. W. Schwartz, E. K. Martin, M. E. Sanders, and one clerk, all of whom have rendered splendid service to the Road Department as a whole and to the Equipment Division especially.

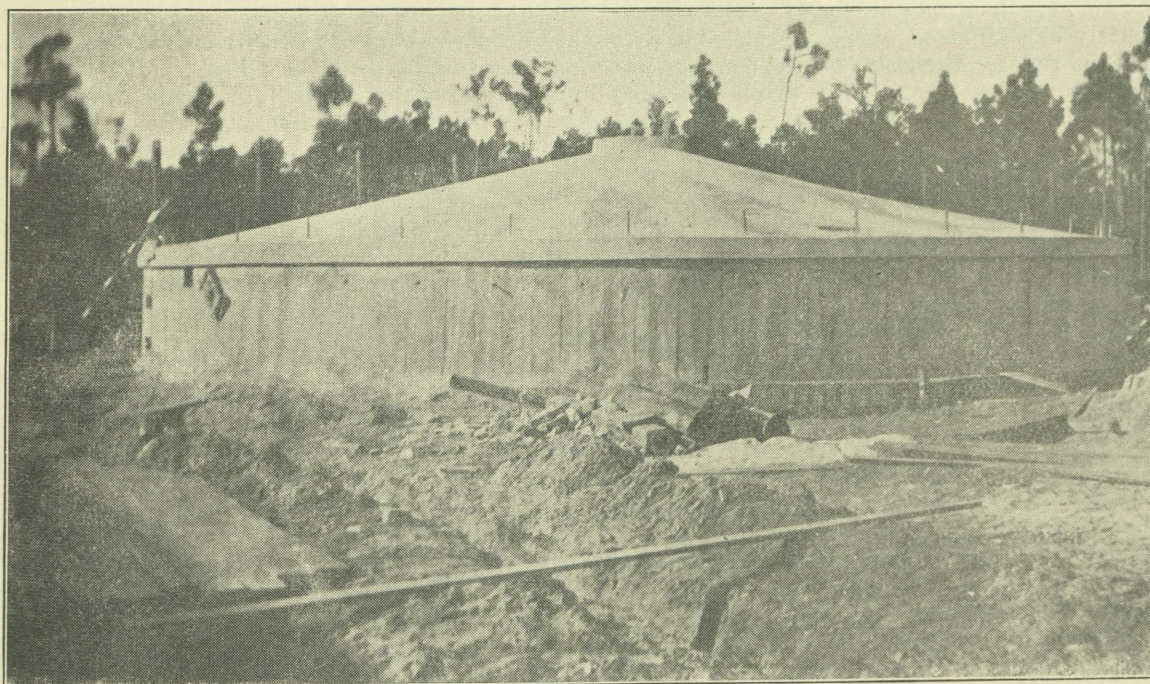
Distribution of Equipment

The State is divided into five divisions, headed by the following division engineers:

- R. L. Bannerman, Marianna, Division No. 1.
- John R. Stewart, Lake City, Division No. 2.
- H. C. Green, Ft. Pierce, Division No. 3.
- L. B. Thrasher, Ocala, Division No. 4.
- A. W. Kinney, Lakeland, Division No. 5.

These men control 311 pieces of the State's automotive equipment, such as automobiles, tractors, trailers, motorcycles, etc., as follows:

| Class Equipment. | Div. 1 | Div. 2 | Div. 3 | Div. 4 | Div. 5 | Total |
|---------------------------------|--------|--------|--------|--------|--------|-------|
| Touring cars..... | 3 | 3 | 8 | 5 | 9 | 28 |
| Trucks | 22 | 52 | 20 | 27 | 26 | 147 |
| Trailers | 12 | 27 | .... | .... | 5 | 44 |
| Tractors, Holt, 5-ton..... | .... | 4 | 2 | .... | 1 | 7 |
| Tractors, Holt, 10-ton..... | 3 | 5 | 1 | .... | 2 | 11 |
| Tractors, Fordson | 5 | 2 | .... | 2 | 2 | 11 |
| Tractors, Best..... | 1 | 1 | .... | 1 | .... | 3 |
| Motorcycles | 3 | 1 | .... | 3 | 6 | 13 |
| Carts, dump | 6 | 11 | .... | 4 | 2 | 23 |
| Flat cars, gondola bodies ..... | .... | .... | .... | .... | 20 | 20 |
| Locomotives, Whitcomb..... | .... | 2 | .... | .... | 2 | 4 |
| Pieces each division..... | 55 | 108 | 31 | 42 | 75 | 311 |



Equipment Division—Reinforced Concrete Reservoir. Capacity 200,000 gallons.

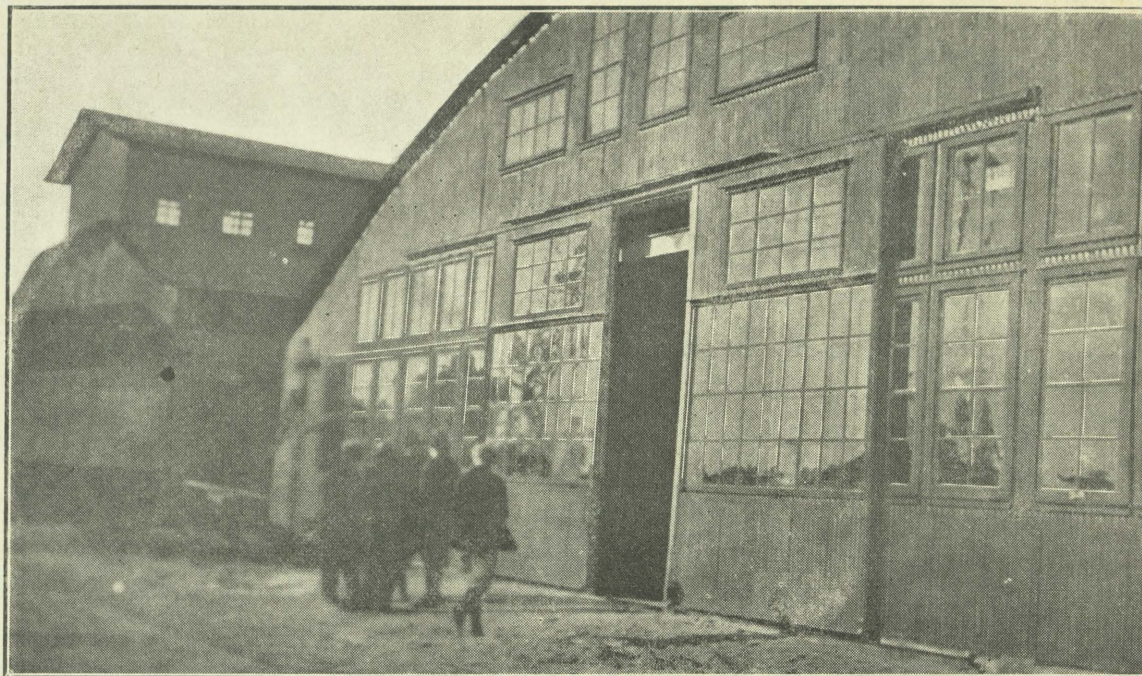
bridge construction. The laboratory determines whether the material has the qualities for permanent and good construction and is free from harmful elements.

The laboratory was established in 1917 in the engineering building of the University of Florida. Four thousand samples have been tested, covering nearly every type of road building material, asphalt, brick, cement, clay, marl, sand stone, water for concrete purposes, etc.

Mr. Hall is in charge of this department, with the

The above figures do not include the numerous pieces of miscellaneous equipment for road construction, such as asphalt, kettles, concrete carts, rock crushers, cranes, dump carts, graders, hoists, harrows, portable pumping outfits with power, pile drivers, rollers, road drags, scarifiers, scrapers, wagons, water tank wagons and various power plants which the resident or project engineers who work under the supervision of the division engineers employ in their road construction activities.

In addition to the above equipment in the field,



Equipment Division—Motor and Machine Shop (Right). Spare Parts Stock Room (Left).

we have two narrow gauge steam locomotives and approximately one hundred narrow gauge flat cars with sufficient rail for their use on the yard at our plant, which are in storage and available when called on for any project.

The trucks, tractors, automobiles, power plants, repair units, etc., are let out on a rental basis and must earn their replacement value. The rental charge is less than the amount at which any of the equipment could be rented elsewhere. The same plan is used when any of the equipment is rented to contractors in the State, which is about 25% above the rental charge made against divisions. The equipment is rented at a set sum per month, and the plan as a whole is proving very satisfactory to all concerned and proves a good return for the replacing of equipment when it is no longer fit for service.

Plant Regulations

Each employee on entering the plant in the morning for work is required to punch a time clock, showing the time he reported for duty. Upon leaving the plant for any purpose other than official business he is required to again punch the clock. The time-keeper verifies these cards in addition to checking the men on the yard, and in this manner the time of each man is kept accurately. All employees, irrespective of positions held, report for duty at 7:30 o'clock in the morning and quit at 5:15 o'clock in the afternoon.

A word might be said here regarding the co-operation the equipment division has received from the main office of the State Road Department. The chairman and chief engineer have done their utmost in the way of co-operation in furnishing sufficient funds to be used in the construction of the new plant and make an effort to visit the plant at least every thirty days, and they have on each visit expressed themselves as being entirely pleased with the work completed and under construction. It is

very gratifying to note that the Florida Legislature has been very lenient with the Road Department in passing such bills as are best suited to serve its needs, and every available assistance has been rendered to make the Equipment Division a success.

Three watchmen are employed at the plant all the time, working on an eight-hour shift. The night watchman is required to punch a regular watchman's clock with keys stationed at various parts of the plant yard. In this way he keeps a watch to see what is going on after working hours and keeps a sharp lookout for anything that might cause a fire. The plant yard has sufficient fire-fighting apparatus stationed at every building sufficient to fight a fire of good size. It is thought that there is very little danger of a building being a total loss under the present arrangement, with its outlay of chemicals and hose for this purpose.

No employees are allowed to enter the plant after working hours without the written consent or authority of the superintendent of equipment, and this privilege is granted only in cases of emergency.

THE FEDERAL AID SYSTEM

The Federal Aid highway system which will shortly be approved in its entirety is indicative of the determination of the American people to have a highway system consistent with the demands of the traffic. The system will include nearly 180,000 miles of the most important roads of the United States, so located as to form a complete network of main interstate and intercountry roads. When completed, it will tie together practically every city and town of 5,000 population or greater, and a 10-mile zone on each side of the roads will include the home of 90 per cent of the people. To encourage the early completion of this system, all Federal appropriations will hereafter be spent only on roads which form a part of the system.

Supreme Court Defines Status of Sand-Clay Roads in Connection with the Statute Authorizing the Issue of Bonds for the Construction of "Paved, Macadamized or Other Hard-Surfaced Highways"

In a recent decision written by Justice West and filed in the Supreme Court, that tribunal had occasion to determine whether or not a sand-clay road is a hard-surfaced highway within the meaning of the law which authorizes the issuance of bonds for constructing "paved, macadamized, or other hard-surfaced highways." This pronouncement is of great importance to all interested in road construction, and the entire opinion is published herewith. It is to be remarked that the decision was not a unanimous one, Justices Ellis and Browne dissenting.

The opinion is as follows:

IN THE SUPREME COURT OF FLORIDA, JUNE TERM,
A. D. 1923.—DIVISION B.

J. D. McDonald, C. W. Sinclair and C. P. Kelley, Appellants, vs. L. A. Fraleigh, R. C. Reams, J. P. Taylor, J. J. Sale and J. S. Thomas, as and composing the Board of County Commissioners of Madison County, Florida, and C. D. Tomlinson, W. N. Webb and T. C. Smith, as Trustees of County Bonds of Madison County, Florida, Appellees.—Madison County.

WEST, J.

The complainants are alleged to be resident owners of real estate and tax payers of Madison County. The defendants are county commissioners and trustees of county bonds of Madison County. The objects of the suit are, primarily to restrain the expenditure by the defendants of funds derived from the sale of county bonds, issued for the purpose of constructing "paved, macadamized or other hard-surfaced highways," in the construction of sand-clay roads, the theory of the bill being that sand-clay roads are not paved, macadamized or other hard-surfaced roads and therefore such use of the funds is not an authorized expenditure and should be enjoined; and secondarily, if such funds are to be expended by the defendants in the construction of sand-clay roads, to prevent an alleged discrimination in favor of one as against another designated road contrary to the alleged terms of the resolution calling the election authorizing the issuance of the bonds.

The paragraph of the bill of complaint containing the allegations upon which complainants' primary reliance rests is as follows:

"Complainants further say that the said Board of County Commissioners, contemplating the use of a portion of the proceeds arising from the sale of the said \$330,000.00 of bonds for the construction of said clay roads, has caused specifications to be prepared for the guidance of bidders who might desire to construct sand clay roads under contracts with said Board, and has caused notice to be given in *The Enterprise-Recorder*, a newspaper printed and published in Madison, Madison County, Florida, calling for bids for the construction of sand clay roads in Madison County, Florida, to be made to the said Board of County Commissioners up to 2 o'clock P. M. on March 20, 1923, a copy of which notice is hereto attached as Exhibit 'E' and made a part of this bill of complaint; that it is the purpose of said Board of County Commissioners to receive bids for the construction of sand-clay roads in accordance with said notice and to pay therefor out of the moneys derived from the sale of said \$330,000.00 of bonds, and to give orders on said trustees of county bonds to the contractors for payment out of said moneys; that the projects referred to in said Exhibit 'E' (notice calling for bids for

construction of roads) constitute a portion of the roads referred to in Exhibit 'A' (resolution calling the election) other than those roads that are to be constructed by the State Road Department; that it is the belief of the complainants, and they so charge and aver that it is the intention and purpose of said Board of County Commissioners to give notice and to receive other and further bids for the construction of sand clay roads along the line of the other roads referred to in Exhibit 'A' excepting such roads as are to be constructed by the State Road Department and also, except the Hopewell Road, and to enter into contracts with successful bidders, and to pay therefor out of the proceeds of the sale of said \$330,000.00 and to give orders on said trustees for the money. Complainants allege it as their belief, and so charge, that there is no authority in law in the State of Florida for the issuance by the County of Madison, Florida, of its bonds for the building, construction or maintenance of sand-clay roads; that a sand-clay road is not a paved, macadamized or other hard surfaced road within the meaning and comprehension of the Florida laws; that said Board of County Commissioners intends to construct sand-clay roads and not paved, macadamized or other hard-surfaced roads with the proceeds of the sale of said \$330,000.00, which is, as complainants verily believe and charge, contrary to said resolution 'A,' * * * and contrary to law."

The prayer is that the defendants be restrained from making any contract, pursuant to the published notice, for the construction of sand-clay roads in the county payable from proceeds derived from the sale of such bonds; from making or entering into any contract or agreement involving the expenditure of any of such fund for the construction of any sand-clay roads without at the same time appropriating an equitable proportion of said fund for a certain designated road; from levying any tax to pay such bonds, principal or interest; and for general relief.

By answer the defendants admit that it is their purpose and intention to pay for the construction of sand-clay roads out of the proceeds of the sale of said bonds. They deny that there is no authority under the law for the issuance by the County of Madison of bonds for building, constructing or maintaining sand-clay roads, and deny that a sand-clay road is not a paved, macadamized or other hard-surfaced road within the meaning of the law.

There was a hearing on application for a temporary restraining order on bill, answer and evidence in the form of affidavits. Complainants produced an affidavit of an engineer then in the employ of the Highway Department of Georgia and an affidavit of the then State Highway Engineer of Florida, in each of which the opinion is expressed that a sand-clay road is not and cannot properly be termed a hard-surfaced or paved road, and a letter from the Chief Engineer of the Bureau of Public Roads of the United States, addressed to the attorney for complainants, expressing the opinion that a sand-clay road should under no circumstances be described as a hard-surfaced road. The defendants produced an affidavit of the County Engineer of Madison County to the effect that roads surfaced with a mixture of sand and clay, when complete, make a hard, smooth, firm and compact roadway known by the profession everywhere as hard-surfaced roads.

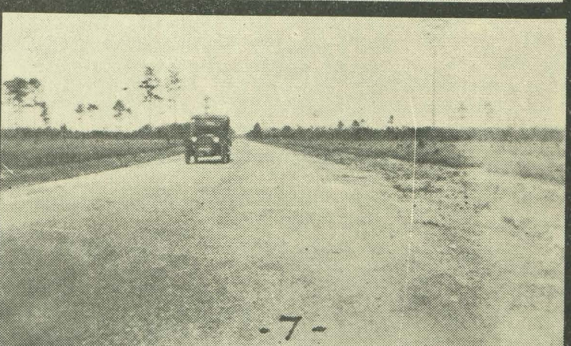
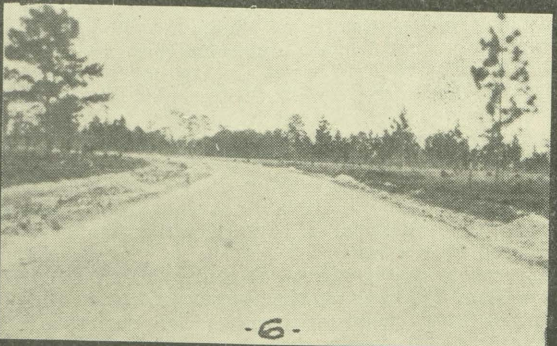
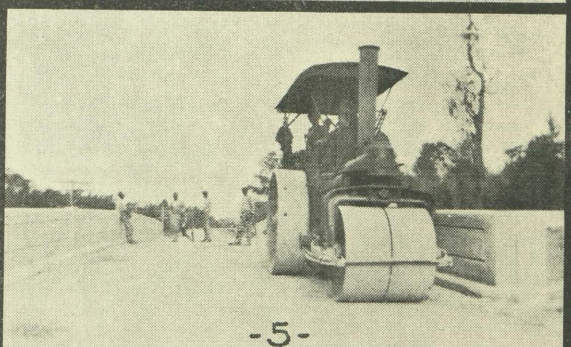
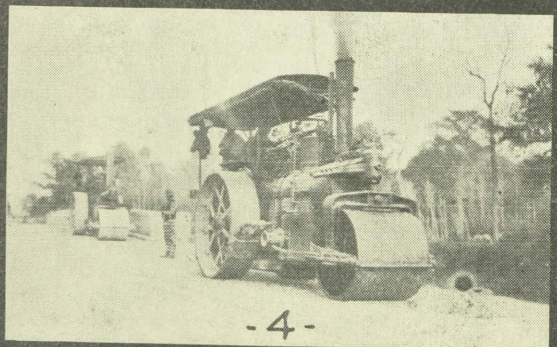
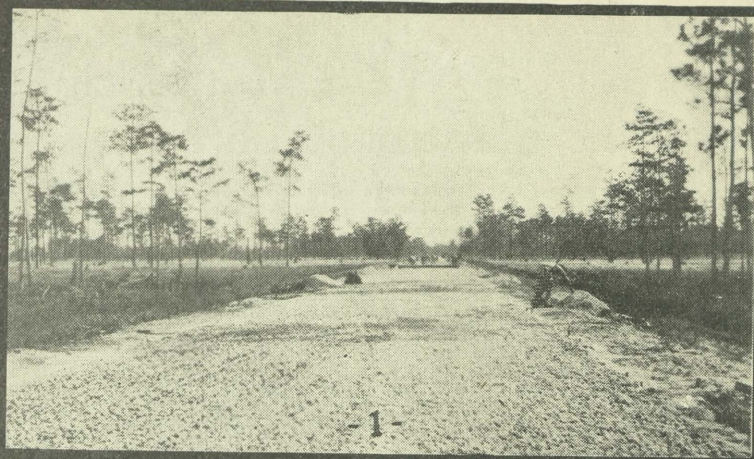
The court denied the application and dismissed the bill.

The record discloses that the bonds have been validated and their validity is not questioned. The decisive question is whether the contemplated use of the funds, as alleged and admitted, derived from the sale of the bonds is an authorized appropriation of such funds. The answer depends upon whether sand-clay roads are comprehended by

(Continued on Page Twenty-four)

STEPS IN
CONSTRUCTION
~ OF ~
BIT. MACADAM
SURFACE

PROJECT
32
ROAD 4
NASSAU
COUNTY



1. SLAG SPREAD FOR PENETRATION

2. DISTRIBUTOR AT WORK

3 SPREADING SCREENING AFTER PENETRATION.

4. ROLLING FIRST COURSE

5. FINAL ROLLING OF FIRST COURSE

6. FIRST COURSE OPEN TO TRAFFIC

7. FINISHED ROAD AFTER SEALING.

The Highway Situation in the United States Today

By Ex-Senator CHARLES E. TOWNSEND, of Michigan

The importance of the continuation of Federal Aid for highway building with increasing appropriations was emphasized in the address of Ex-Senator Charles E. Townsend, of Michigan, on the subject of "The Highway Situation in the United Today," recently broadcasted by radio from Station WRC, of the Radio Corporation of America in Washington. Senator Townsend voiced his approval of the principle of highway finance recently approved by the U. S. Bureau of Public Roads, the Investment Bankers' Association of America and the National Automobile Chamber of

Commerce, that States with the larger part of their construction program ahead of them are amply justified in capitalizing future revenues through the issuance of bonds for State highway construction. He exploded the theory that some of the more thickly populated and richer States are contributing more than their fair share to Federal Aid. Senator Townsend has been a member and later was chairman of the Senate Committee on Post Offices and Post Roads since Federal Aid was first made available. He has been one of the leaders in the fight for good roads.

No one thing in the last dozen years has contributed more to the pleasure and progress of the people in the United States than has the automobile. I shall not give the bill of particulars which readily suggests itself to you all in support of this statement. I desire, however, to mention one thing which in itself justifies my statement. I refer to the interest the automobile has aroused in highway construction and improvement. Not until the automobile became a demonstrated success did the Federal Government give material aid to highway building in the states. It is true that prior to the railroad and telegraph Congress attempted to construct a few highways over which the mails could be carried by horses and horse-drawn vehicles to the sparsely settled west, and to facilitate the settlement and development of those remote regions; yet these efforts were only temporary and soon abandoned. After the advent of the railroad, and especially of the transcontinental lines, the Federal Government took no interest in highways, and their construction and maintenance were left almost entirely to restricted local communities, which seem never to have had a national or even a state-wide vision. Scientific road building was unknown, and therefore unpracticed. It is a notorious fact that as the country developed in many other respects, mud and loose sand roads were the general order, and not until the arrival of the automobile, which required smooth, hard roads for successful operation, was the relation of good roads to general progress and prosperity given careful scientific thought and attention. Then began the real study of highway transportation. Then was understood the neglect and waste which had characterized road building throughout the more than one hundred years of our national existence, and inasmuch as interstate commerce far exceeded state commerce, and inasmuch further as Congress has full control over the former, the Federal Government assumed its rightful constitutional jurisdiction and decided to assist the states, not only with money but also with information on the construction of highways that would serve a Federal purpose. The result has been of unquestioned great value to the country. Even as the people were properly taxed to assist in the construction of the first transcontinental railroads, so the people are now taxed to assist in building interstate highways. There was, however, this difference: In the case of the railroads the Federal contribution was to corporations who had the chance for future profits, while the aid to highways was for the permanent benefit of all the people.

For some years prior to Federal aid some of the richer, more densely populated States began the building of roads within their jurisdiction to serve their inhabitants. These states were the homes of manufactories which converted the basic materials of other and poorer states into articles of commerce, and, as is generally known, it is the transmuters of basic materials who make and retain the lion's share of wealth. They ship to themselves the products of field and forest and mine, and after converting them into food, furniture, machines and automobiles, they send them out at a profit into the very states from which they obtained them. Capital always seeks a home at the seat of luxury and highest material development.

Federal Aid to roads is obtainable through general taxation and from special taxation of automobiles. It is distributed to the states proportionately according to area, mileage of roads and population, and the interesting fact is disclosed by the census that this method of distribution is approximately the same as the distribution and production of the basic raw materials. That is to say, a state obtains as its share of Federal Aid about the same percentage of the whole sum appropriated as is its percentage of basic material of the whole of such material in the United States.

It is clearly in the interest of the manufacturer in New England, New York, Pennsylvania, Ohio, Michigan or Illinois to have a market in the south, in Kansas, Montana, Washington, Nevada and New Mexico. He cannot sell all his products nor generally a majority of them in his home state. A selfish interest if no other should therefore induce him to contribute to the welfare of the states where is located his greatest market.

But strong and appealing as is the selfish argument in favor of Federal participation in interstate highway construction, there are stronger and more impelling reasons than this. Our country prospers or suffers as a whole. The blight or failure of one section is the cancer which affects the whole body politic, and all the states and all the people are vitally interested in the prosperity of all the states—all sections. So far as interstate highways are concerned, every state in the Union should be interested in their construction and maintenance in every other state. They are imperatively necessary in time of war. They are of highest importance to unity and co-operation in time of peace.

But what are some of the barriers to overcome in the onward march to the goal of a system of arterial

and mainmarket highways over which that portion of the commerce of the nation within the economic sphere of highway transport can flow freely? It is advisable that we be thoroughly frank with ourselves. Of the 180,000 miles of the national highway system there have been completed a mileage slightly in excess of 25,000. The greater part of this mileage is disconnected. Much of the connected mileage is in the states within reach of my voice. As I look over the progress map before me I see evidences of the splendid work which has been done by the states of Maryland, Pennsylvania, West Virginia, New York, Delaware and New Jersey. On my way over here to the broadcasting station of the Radio Corporation of America, which made it possible for me to talk to you in this wonderful way, my thoughts were directed southward to the land of sunshine and flowers. Visions of the hundreds of thousands of motor tourists who will soon be on their way from the eastern, north central and mid-western states to this wonderful southern winter resort section flashed before me. What of the road conditions they will encounter? What promise is there of early improvement of the main highways of these southern states? Surely there are as potent reasons for the free flow of travel between the North and the South as between any other sections.

By reference again to the map, I am gratified to note the progress which North Carolina is making not only in the building of her sections of the national highway system but also her intra-state highways, whose improvement must go along with that of interstate highways. That North Carolina is leading in highway development among the Southern States is undoubtedly due to the vision and foresight of her people in capitalizing the revenues of the state through the issuance of \$65,000,000 in bonds in order that the urgent highway transportation needs of the state may be promptly met. It is pleasing to know that Virginia will vote in November on the question of issuing \$50,000,000 in bonds, which if carried, as I sincerely trust it will be, will permit that state to join hands with North Carolina and Tennessee on the south, and Maryland on the north, and West Virginia and Kentucky on the west, in speedily providing an intercommunicating system of highways. I am glad to know that Kentucky and Tennessee have well-defined plans under way to follow the example of North Carolina, and I hope of Virginia, for frankly I do not believe that these states can provide adequate funds out of their limited resources to develop their highway system under the so-called pay as you go plan as rapidly as their highway needs require, without either increasing taxes or doing so at the expense of other equally important state requirements. I am firmly convinced that the profits from the speedily completed highway systems of these states will greatly exceed their annual interest charge on the bonds.

I have sketched conditions in the several states within sound of my voice as the Federal highway law leaves the construction of the national highway system within the states to the people of those states. Retarded progress in any one state delays the program of the national highway system as it affects the adjoining states.

What can be done nationally by motorists and

citizens who are interested in this great national highway development? We must have a continuation of Federal Aid in increasing rather than in diminishing appropriations. An allocation of \$75,000,000 of Federal Aid to the states has been made for the fiscal year of 1925. The appropriation must be made by the next Congress. A definite program of further Federal Aid must be determined for the years following 1925. To secure a continuation of Federal Aid appropriations is going to require an insistent, intelligent, well-organized demand on the part of the motorists of the country. Unfortunately some of the states have been backward in taking up their Federal Aid allotments. This has created balances in the United States Treasury larger than they should be to the credit of the Federal Aid fund. There is a tendency among some members of Congress to hold up further Federal aid until these balances have been absorbed. I believe that this is wrong. Every progressive state which matches Federal Aid with its own revenues should be permitted to move forward with its road program, because in doing so it not only contributes to the welfare of its own people but even more largely to the good of the whole country.—North Carolina Highway Bulletin.

I DON'T

Most motorists are blooming fools,
They trifle with the traffic rules.

I don't.

No man should try to get the drop
On any seasoned traffic cop,
Nor fail to heed his sign to stop.

I don't.

A man should never drive too fast,
Or brag about the cars he's passed.

I don't.

For safety first should be his creed.
There really isn't any need
To drive a car at reckless speed.

I don't.

A man should never lose his bean
When piloting a gas machine.

I don't.

On city street or open road
A man should never break the code,
Nor fellow-farers incommode.

I don't.

He should not scare equestrians,
Nor chase the poor pedestrians.

I don't.

In fact, I have no car to run,
I'm shy the coin to purchase one;
You'd think I wouldn't have much fun.

I don't.

—Exchange.

Good roads mean prosperity; they mean progress; they mean education; they mean a full life, worth living; they mean the greatest amount of goods purchased for the least amount of haulage; they mean greater profits from farm produce because they cost less to haul over good roads. Good roads everywhere mean prosperity and happiness everywhere.—Exchange.

A New View of the Parking Problem

By E. E. EAST, Highway Engineer, Automobile Club of Southern California

The parking problem is not a problem peculiar to the great cities. Every city, town, village and hamlet within the reach of the automobile is fast coming to realize that it, too, has a parking problem which sooner or later must be met squarely and solved in an intelligent manner. It is even whispered about in a few select circles that the public highways are also coming to be afflicted in a mild sort of way with this universal parking malady.

In general preliminary studies, or better, discussions of the parking problem have resulted in convincing those taking sides in the argument that there is a problem to be solved. However, the participants are not yet convinced but that prolonged argument will bring out some happy solution which will cause this complex human problem to vanish overnight. In brief, all the good old home remedies have not yet been tried out, in advance of calling in the doctor. Let us trust that the patient survives until the medicine man arrives.

In the study and analysis of any problem, a failure to recognize and set forth in their proper place those simple and to every one obvious conditions which give rise to the problem oftentimes leads the student far afield and he is prone to become confused in a jargon of coined words and high-sounding phrases.

The parking problem is the direct result of the widespread ownership and use of the automobile, resulting to an appreciable extent in the substitution of individual for mass units of transportation. Parking is an essential function of the efficient use of the automobile. When we consider that the average automobile is driven about 10,000 miles per year, which gives an average daily travel of about 27½ miles, and that at an assumed rate of speed of 15 miles per hour, less than two hours are consumed in actual travel, we are confronted with the fact that for a period of 22 hours out of each 24, parking space must be provided for each individual car.

City streets as we see them today were designed to serve the transportation needs of a day when mass transportation units served the individual and were designed for the use of such units and the transportation of merchandise from wholesaler to retailer and from retailer to consumer.

The units employed in mass transportation ordinarily allot from 3 to 4 square feet to the person. Individual transportation requires about 75 square feet per person. The former are in continual operation, and the latter one-twelfth of the time. The law of the "survival of the fittest" has at all times applied to the field of transportation. Personal convenience, comfort and independence have been and are the standards by which such units are measured in the public eye. The public has today measured the automobile as a transportation means by these standards and pronounced it good.

It is beside the point to argue that such individual transportation is far more expensive than mass transportation. As well argue that it is more expensive to wear shoes than to go barefooted. The fact remains that the public has taken to the auto-

mobile like a duck to water, and no one ever thinks of going barefooted in these high-powered days.

It is estimated that there are in excess of one million cars in use in California today. The population is estimated to be around three and one-half million. In other words, a car for every three and one-half persons. The distribution of automobiles varies as the distribution of population. It therefore follows that the parking problem varies directly as centralization of population, business and recreational facilities.

There are three outstanding solutions of the parking problem: The restricting of the use of the automobile as an individual unit of transportation is an obvious solution and can be accomplished through imposing such a tax upon its ownership, or operation, or both, as to make its use prohibitive. Decentralization of population and business and places of recreation is a second solution which is slowly but surely being carried out at present in the face of and in spite of human interference. A third and apparently simple solution would be that of providing ample parking facilities through and adjacent to existing business centers. This last solution requires individual as well as co-operative effort and will secure attention only when a solution of the parking problem becomes a matter of self-preservation.

Ultimate relief from parking congestion will no doubt be effected through the application in part of each of the foregoing solutions, coupled with that questionable relief which comes through becoming reconciled to existing conditions.—Georgia Highways.

I AM THE PEDESTRIAN

By Laura Hamner

I am the pedestrian.

I am ignored by some drivers, pursued by others, scorned by all.

When Charles Dickens wrote the story of a character called the Artful Dodger, his prescience took cognizance of my future existence.

I am the Artful Dodger of 1923.

I have no rights. I forfeit them by poverty or by choice, or by whatsoever makes me walk instead of ride.

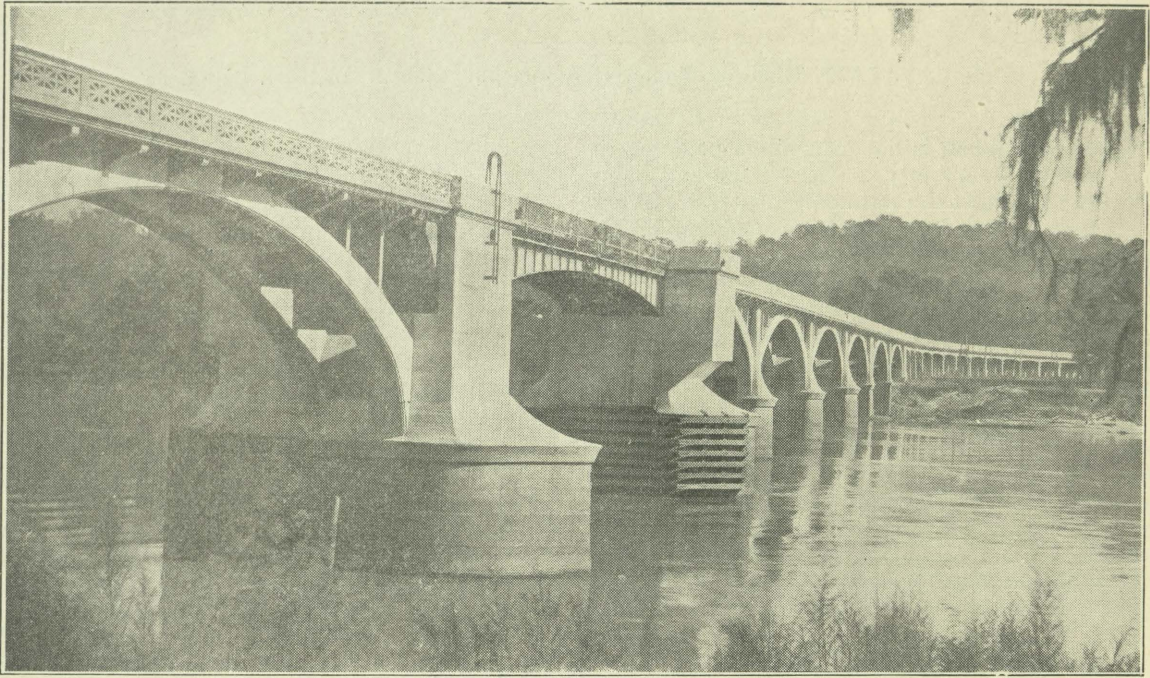
If I fare forth resplendent in snow-white garments and come back bespattered with mud or powdered with dust from passing automobiles, I have no cause for complaint. I should have hidden in the alley until all cars went by.

If I am struck or near-struck by a kaleidoscopic flash, accompanied by raucous sounds and evil odors, I am told that I should have climbed a tree.

I go armed with a red light and honk a horn at the approach of an automobile, but my efforts are in vain.

I am frightened, bruised, dusted, honked at, menaced, injured, scoffed at, looked down upon from proud eminences all because

I am the pedestrian.



Victory Bridge—Federal Aid Project No. 3

The above is a beautiful likeness of Victory Bridge which spans the Apalachicola River between Gadsden and Jackson counties on State Road No. 1. This is said to be one of the most beautiful bridges ever erected in the South. It was constructed with State and Federal funds, the counties participating in the building of the approaches. It is of concrete and

steel construction, being 2027 feet in length. The east approach is also of concrete. Several spans on the western approach are of concrete, while the remainder is constructed of creosoted timbers.

The photograph here shown was obtained through the courtesy of Hon. William M. Corry, member of the Department.

INCREASED MOTOR VEHICLE IMPOSTS

What should the car owner pay as his share of the cost of highway improvement? Answers range between a moderate charge sufficient to maintain improved roads and the total cost of road construction and upkeep. The dispute wages endlessly.

Meanwhile the people everywhere, through acts of legislature, are adding to the taxes on the car user. This year one state, Utah, has radically reduced motor vehicle license fees, and one, New Hampshire, has revised its license fees slightly downward; but in every other state where there has been any change it has been an increase. This year also 32 states have placed a tax on gasoline or raised the existing tax until now 37 states impose taxes ranging from one cent to four cents a gallon. Gas taxes barely failed of enactment, generally by veto, in half a dozen other states.

Two facts are obvious in all automobile legislation, that which failed and will again come up for consideration, and that which was enacted: (1) The public has determined that the car user shall pay largely for road improvements, and (2) the public is convinced that heretofore the payment has not been as large as it in justice should be. This brings us again to the original question: What is a fair payment?

Recently A. R. Hirst, state highway engineer of Wisconsin, has undertaken to answer this question with mathematical precision. He has evolved a formula for computing the charge against car owners for highway service. According to this formula the charge at present is about half of the amount it should be. This charge, Mr. Hirst proposes, should be made in the form of license fees and a tax on gasoline consumption, which is held to be the best measure of road use by motor vehicles. It is not, however, in the character of the imposts proposed by Mr. Hirst that concern will lie, but in their magnitude. He suggests a minimum of five cents and a maximum of ten. He will have his critics, and they will not be kind.

Fundamentally, however, the question is not rates, but whether the automobile should pay a greater share (about twice as much) than it is now paying of the cost of road service. As Mr. Hirst points out, we can not let thought of what has been hamper our conclusions. Roads are improved today for motor vehicles. Not a thought in design or construction of the modern main road is for other than motor vehicle service. It is the user who must pay. And with 14,000,000 motor vehicles being used, the payment has to be large.—Engineering News Record.

Road Construction in United States Shows Big Gains

That the construction of modern highways and paved streets in this country is gaining in volume year by year is shown by statistics just announced by Highways Information Service, New York City. The figures show also that highway contracts awarded during the second half of the year average in volume only about 25% less than those let during the first half, and that there is not a month of the year in which a large amount of construction is not placed under contract.

In 1920 a total of \$530,848,000 in new road construction was awarded in this country. In 1921 the amount was \$630,712,000, an increase of \$99,864,000 over 1920. Last year contracts were awarded to the amount of \$669,428,000, an increase of \$38,716,000 over 1921 and \$138,380,000 over 1920. From January 1 to June 1, this year, a total of \$384,774,000 was placed under contract. At this rate new highways for which contracts will be let during 1923 will cost approximately \$794,000,000, a gain of about \$125,000,000 over 1922.

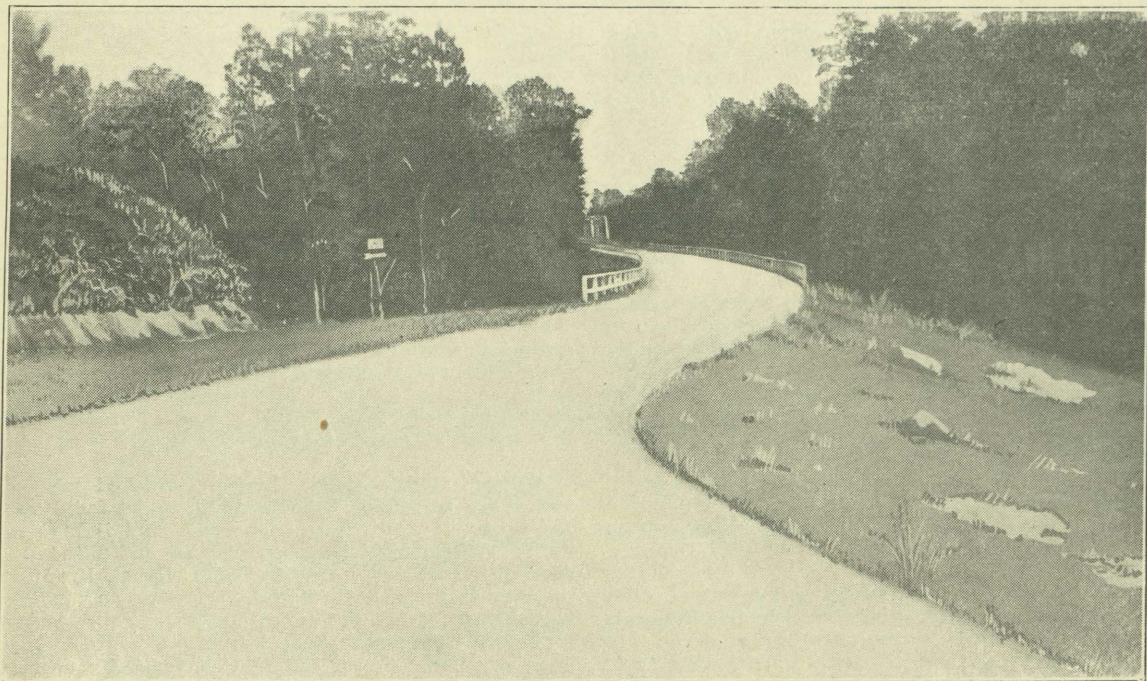
About \$1,250,000,000 all told, for Federal, state, county, district, township and city highway construction and maintenance will be expended this year. The Federal and state appropriations for state highways alone total \$800,000,000, the city and town appropriations for streets and roads total \$285,000,000, and the remainder represents the funds to be expended by the counties, parishes, road districts and townships. Compared with the 1923 road construction in the United States, the construction of the great Roman highways, the erection of the pyramids, the building of the Chinese wall and the excavation of the Panama canal pale into insignificance.

Highway work by states, through state and Federal aid, actually under contract at present is as follows: Alabama, \$8,584,000; Arizona, \$1,270,000; Arkansas, \$625,000; California, \$1,343,000; Colorado, \$8,345,000; Delaware, \$2,600,000; Idaho, \$2,175,000; Illinois, \$23,400,000; Iowa, \$9,000,000; Kentucky, \$1,000,000; Louisiana, \$2,000,000; Maine, \$8,500,000; Maryland, \$4,265,000; Massachusetts, \$1,358,000; Michigan, \$13,836,000; Minnesota, \$1,200,000; Mississippi, \$6,000,000; Missouri, \$29,233,000; Nebraska, \$1,218,000; Nevada, \$300,000; New Hampshire, \$100,000; New Jersey, \$8,500,000; New Mexico, \$300,000; North Carolina, \$37,497,000; North Dakota, \$1,800,000; Ohio, \$30,000,000; Oklahoma, \$600,000; Oregon, \$1,335,000; Pennsylvania, \$12,259,000; Rhode Island, \$887,000; South Carolina, \$6,023,000; South Dakota, \$350,000; Utah, \$1,000,000; Vermont, \$600,000; Washington, \$3,000,000; West Virginia, \$15,000,000; Wisconsin, \$9,000,000; Wyoming, \$4,900,000.

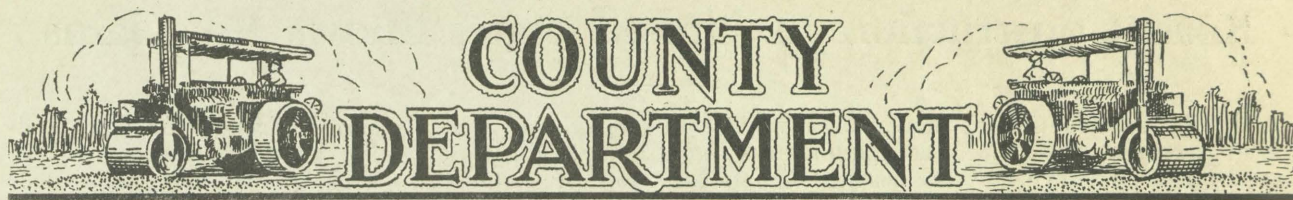
The Michigan State Highway Department, in its biennial report for 1921-1922, gives some valuable data on the cost of maintaining its highways. Its investigations show that for the different types of roads maintenance costs averaged per mile as follows: Earth, \$268.57; sand, \$415.66; gravel, \$666.94; waterbound macadam, \$806.09; asphaltic macadam, \$525.95; asphaltic concrete, \$514.09; portland cement concrete, \$829.81; unclassified, \$512.34.

Ohio, one of the leading states engaged in new highway construction, placed under contract in 1920 a total of 412.16 miles of new roads, at a total cost of \$12,866,119.89. In 1921 this state contracted for 393.80 miles at \$13,774,596.47. Last year Ohio con-

(Continued on Page Seventeen)



West Approach to Allapaha River, Road No. 2, Federal Aid Project 7, Hamilton County.



FLORIDA HAS MANY CAMPS FOR THE AUTO TOURISTS

A real vacation, to a great many people, means camping out, so the automobile tourist camps have become an established institution wherever good roads encourage automobile travel.

Florida has hundreds of miles of good roads and also a very enjoyable climate twelve months in the year, affording a desirable combination which annually attracts hundreds of thousands of visitors to the state.

All automobile camps are under supervision of the State Board of Health, which requires a high standard of sanitation before issuing a permit, and the permit is revoked at any time conditions fall below the standard. In order to keep a check on the camps, two inspectors are employed to visit all camps at frequent intervals.

Experience has proven that the majority of automobile tourists prefer to pay a reasonable fee for camping where police protection and some facilities are provided. Some cities provide free camp sites with such privileges, but the tendency is to put the camp sites on a sustaining basis or let private interests operate the camps.

Following is a list of the camps, with facilities offered, which were reported to the Florida Development Board:

APALACHICOLA.—Camp furnished with running water; no electric lights; place for washing cars; camp capacity 50; no time limit; 5 miles from city. Reported by W. H. Collier, Secretary Chamber of Commerce.

ARCADIA.—Camp furnished with running water; toilet facilities; electric lights; place for washing cars; camp capacity 1,000 cars or more (35 acres); no charge for camp or lights; no time limit; camp in charge of City of Arcadia; 6 blocks from business section.

APOPKA.—Private camps for auto tourists. Make inquiry of E. H. Morrey, Secretary Chamber of Commerce.

BOYNTON.—Camp furnished with running water; toilet facilities; electric lights; no place to wash cars; no charge for camp and lights; no time limit; camp capacity 20 cars; two blocks from business section; supervision Booster Club.

BRADENTOWN.—Camp furnished with running water; toilet facilities; electric lights; shower baths; no place to wash cars; no charge for camp or lights; no time limit; supervision city authorities.

BRANFORD.—Camp furnished with running water; toilet facilities and bathing spring; place to wash cars; no charge for camp; no time limit; supervision City of Branford—Mayor.

BROOKSVILLE.—Camp has running water; toilet facilities; electric lights; place for washing cars; two blocks from business section; no charge for use of camp, and no limit on stay. Camp under supervision of City Commissioners.

DADE CITY.—Camp furnished with running water; toilet facilities; no place for washing cars; no electric lights or shower bath; no charge for camp; no time limit; 10-acre camp; 50 yards from business section. Reported by Dade City Chamber of Commerce.

DANIA.—Camp furnished with running water; electric lights and shower bath; toilet facilities; capacity of camp

100 cars; no charge for camp or lights; 4 blocks from city; no time limit. Reported by Dania Tourist Camp Ground Association.

DAYTONA.—Camp furnished with running water; electric lights and two shower baths; toilet facilities; place for washing cars in open lot, but no drain floor; no charge for outside lights, inside at regular rate \$1.00 per week for camp or 25 cents per day; 4 blocks from business section; camp equipped with tents; 15 kitchenette apartments furnished with bed, chairs, table, cupboard; supervision of city; Brown & Knapp, owners. Reported by Daytona Chamber of Commerce.

DeFUNIAC SPRINGS.—Camp furnished with running water; toilet facilities; place for washing cars; no charge for camp; no time limit; 3 blocks from business section; supervision of city.

DELAND.—Camp furnished with running water; toilet facilities; electric lights; shower baths; place to wash cars; 2 blocks from business section; capacity of camp 200 cars; camp sites 25x50. Charge for camps and lights \$1.50 per week for each car and occupants, or day rate of 35 cents per day. Season October 1st to June 1st. Supervision of E. W. Brown, Department of General Welfare, City of DeLand, and DeLand Commercial Club. DeLand camp located in beautiful pine grove, well drained, free from standing water; under management of two competent custodians. Campers required to register, giving make of car, license number, names of all occupants; police protection furnished; central pavilion provided for rainy weather, where campers put on home talent plays and hold religious services. City maintains garbage and rubbish collection with fly and water-proof garbage cans placed at intervals throughout the camp. State Board of Health has adjudged the DeLand camp the best equipped and managed in the State. Reported by DeLand Commercial Club.

DELRAY.—Camp furnished with running water; electric lights; toilet facilities; no place for washing cars; no charge for lights or camp; no time limit; two blocks from business section; capacity of camp 50 cars. Supervision of city.

FORT LAUDERDALE.—Camp has running water, shower bath, toilet facilities, electric lights and place for washing cars. Capacity 300 cars. Charge of 25 cents per day or \$1.50 per week per car. Persons securing employment forfeit privileges of camp. Twenty days is limit of stay in camp, which is 5 blocks from business section and under supervision of City Council. Reported by Fort Lauderdale Chamber of Commerce.

FT. MEADE.—Fine camping grounds but no regularly kept camp; lights and water furnished. Reported by Ft. Meade Development Board.

FORT PIERCE.—Well equipped, sanitary and supervised camp just south of city limits. Camp has pavilion 25 by 30 feet, with seats, electric lights, running water, shower baths, sanitary toilets. Built under specifications of the State Board of Health. The Merchants' Association and the Realtors' Association have complete charge of the camp.

HAINES CITY.—Camp Monson furnished with running water; electric lights; shower bath; toilet facilities; place for washing cars; charge for camp and lights; no time limit; 4 miles from business section; unlimited capacity; supervision Monson Camp Company, Lake Alfred; aviation and play grounds, etc. Camp LaFoley has no running water nor electric lights; fair toilet facilities; no place for washing cars; 1½ miles from business section; supervision Bradbury Camp Co. of Haines City; capacity 50 cars.

INVERNESS.—Camp furnished with pump; electric lights; shower bath on lake shore; toilet facilities; place for washing cars; no charge for camp or lights; no time

limit; half mile from business section; 4 acres in area; supervision of city.

JACKSONVILLE.—Private auto camps; see Jacksonville Motor Club at Chamber of Commerce for full information.

LAKE CITY.—Camp furnished with running water; electric lights; shower baths; toilet facilities; no place for washing cars; no charge for camp or lights, no time limit; one mile from business section; supervision city authorities.

LAKE HAMILTON.—Camp furnished with running water; electric lights; shower bath; toilet facilities; no charge for use of camp or lights.

LEESBURG.—Camp furnished with running water; electric lights; toilet facilities; place for washing cars; charge of 25 cents per day for use of camp and lights; no time limit; groceries, supplies and gas station at camp. Supervision of Chamber of Commerce.

MANATEE.—Camp half-mile from business section, furnished with running water, toilet facilities and electric lights. No charge for privilege of camping. Under supervision of city marshal.

MARIANNA.—Camp furnished with running water; electric lights; shower bath; toilet facilities; no charge for camp or lights; no time limit; $\frac{3}{4}$ mile from business section; no place for washing cars; capacity of camp 50 parties; to be doubled this fall. Supervision City of Marianna.

MELBOURNE.—Camp furnished with both artesian and soft water; electric lights; toilet facilities; shower baths; place for washing cars; charge of 25 cents per day for camp; no time limit; 5 blocks from business section; supervision of Midway Tourist Camp. Reported by Melbourne Chamber of Commerce.

MIAMI.—See story in this issue about Motor Club Camp.

NEW PORT RICHEY.—Camp one-quarter mile from business section. Has well water and toilet facilities. No charge for camp privileges and no limit on stay permitted in camp.

OCALA.—Springway Camp, Silver Springs, $5\frac{1}{2}$ miles from Ocala; running water, toilet facilities; electric lights; shower baths; place for washing cars; capacity 100 cars; charge 25 cents per day; moderate charge for fuel; no time limit; tables, benches, swings; rooms, furnished or unfurnished.

Ocala Camp on Dixie Highway.—Running water, toilet facilities; electric lights; no time limit; free camp. Reported by Marion County Chamber of Commerce.

OKEECHOBEE.—Camp furnished with running water; electric lights; shower baths; toilet facilities; place for washing cars; no charge for camp or lights; one block from business section; capacity 2 acres and if necessary 4. Supervision of Chamber of Commerce.

ORLANDO.—Three tourist camps; two camps equipped with electric lights; running water; toilet facilities; sanitary conveniences; nominal charge for accommodations; within city limits; privately owned and well managed; no time limit. Reported by Orlando Chamber of Commerce.

PALATKA.—Camp furnished with running water; electric lights; toilet facilities; place for washing cars; capacity 200; one mile from business section; no charge for camp or lights; no time limit; supervision Browning Lumber Company. Reported by Palatka Chamber of Commerce.

PENSACOLA.—Camp furnished with running water; electric lights; shower baths; toilet facilities; place for washing cars; capacity of 50 cars (garage for 12 cars); time limit two weeks; located in city limits; $1\frac{1}{2}$ miles from business section; paved street and street car service; supervision City Commissioners. Reported by Chamber of Commerce.

PINE CASTLE.—Camp on Lake Conway; no running water or electric lights or time limit; capacity 100. Reported by Chamber of Commerce.

SAFETY HARBOR.—Camp furnished with running water; shower baths; dressing rooms for salt water bathers; pavilion for tourists for amusements; electric lights; toilet facilities; place for washing cars; camp accommodations for about 2,000 people; charge for use of camp and lights; no time limit; camp comprised of 10 acres overlooking Old Tampa Bay; high and dry. Owned by National Motor Tourist Camp Association and under its supervision. Open about middle of October. F. M. Bogich, Camp Asso-

ciation Secretary, Safety Harbor, will furnish further information. One-half mile from business section. Reported by Board of Trade.

ST. AUGUSTINE.—No public auto camp; two camps owned by private parties, located two miles south of city on Dixie Highway; camps equipped with toilet facilities and running water; charge 25 cents per day. Reported by St. Augustine Board of Trade.

ST. CLOUD.—Camp furnished with running water; electric lights; toilet facilities; place for washing cars; capacity 40 cars; no charge for camp or lights; 6 blocks from business section; no time limit. Supervision City of St. Cloud.

ST. PETERSBURG.—Pine City Camp furnished with two pumps; street lights; toilet facilities; no charge for camp; no time limit; capacity of camp 300 cars; supervision P. L. Miller; 3 miles from business section.

Sunshine City Camp equipped with running water, electric lights, toilet facilities, store, recreation grounds; nominal charge for tent or cottage space; one mile to city; paved street; street car service; supervision Leora D. Lewis.

SARASOTA.—Establishing new tourist camp; to have all conveniences, such as electric lights, artesian well, toilet facilities; no time limit; $\frac{1}{2}$ mile from business section; capacity of camp 10 cars. Supervision of Chamber of Commerce.

TAMPA.—DeSoto Park camp equipped with running water; electric lights; shower baths; toilet facilities; two miles from business section; no special place for washing cars; capacity 250 to 275 autos; charge 50 cents per week per camp; no time limit; supervision city authorities. Reported by Tampa Board of Trade.

TARPON SPRINGS.—Camp supplied with running water; electric lights; shower baths; toilet facilities; place for washing cars; capacity 100 cars; no charge for camp or lights; no time limit; supervision camp manager; cooking range furnished free. Reported by Chamber of Commerce.

TAVARES.—Camp two blocks from business section; has running water, electric lights, modern toilet facilities; place for washing cars; capacity of camp 50 cars and tents; no charge for camp or lights; no time limit. Supervision Tavares Board of Trade.

TITUSVILLE.—Camp furnished with running water, electric lights, toilet facilities; place for washing cars; no charge for camp or lights; no time limit; capacity of camp 25 cars; three blocks from business section. (Will charge for shower baths when installed this fall.) Supervision Titusville Civic League.

VERO.—Camp furnished with running water and toilet facilities; no electric lights or shower bath; no place to wash cars; charge made for use of camp; time limit one week. Reported by Vero Chamber of Commerce.

WEST PALM BEACH.—Camp has running water, electric lights, shower baths, toilet facilities; no place to wash cars; capacity of camp 100 cars; 25 cents per day charge for each car; time limit two weeks, with privilege of renewal. Supervision resident superintendent. Reported by West Palm Beach Chamber of Commerce.

WHITE SPRINGS.—Camp has running water, electric lights, toilet facilities; capacity of 200 cars; no charge for camp or lights; no time limit; two blocks from business section; one block from spring. Supervision Chamber of Commerce.

ZEPHYRHILLS.—Camp furnished with pump, electric lights, toilet facilities; no charge for camp or lights; no time limit; capacity of camp 5 or 6; four blocks from business section. Supervision of Mayor.

—MIAMI MOTORIST.

Detroit has 865 miles of paved streets and 187 miles of paved alleys.

Detroit pays \$22,000 a day to keep its streets and alleys clean.

New York collects \$12,736,364 in automobile and truck license fees.

**EXTRA MILE OF ROAD WITH 500 VEHICLES
PER DAY COSTS USERS \$18,500
PER YEAR**

Every extra mile of highway on a road carrying an average of 500 vehicles per day, estimating at 10 cents per mile, costs the traffic using it \$18,500 per year. This is not paid out in a lump sum by the county or any other organization, and it is practically impossible to effectually point out to the individual traveling the road just what part of it he is paying. Nevertheless it is a bill that must be paid by the public, either in the form of road taxes or paid individually by the motor car owner.

Two extra miles of such a road entail an additional cost of \$37,000. A 3-months' use of a detour road involving 3 miles' travel costs the users, on the same basis, \$13,500. Highway engineers, with figures like these before them, are today learning

the lessons railroad engineers learned years ago. Railroad engineers find it economical to spend millions of dollars cutting out every extra mile of distance. To gain a mile of distance they make huge cuts and fills, build bridges and tunnel through mountains. They did not do this in the first days of railroad building. They came to it only as accurate cost accounting methods showed clearly the extra cost of every extra mile in transporting their freight and passengers. Highway officials, with traffic census figures and transportation cost data piling up before them, are now learning the same lesson. The average user of the highway seldom thinks of the extra cost the individual mile of travel causes him, because in the individual case it seems too infinitesimal to even consider. Multiply the individual case by 500 or 1,000 per day, total the figures over a week, a month, or a year, and the results assume astonishing proportions.

AUSTIN MOTOR ROLLERS

"THEY SERVE YOU RIGHT"



Every thing you expect of a road roller you will find in the Austin Motor Roller to a greater degree than in any other.

Economical to operate and maintain, able to turn out more work in a given time than any other, and absolutely reliable—your first experience with one of these machines will be a revelation of REAL ROLLER SERVICE.

Three-wheeled rollers in two styles (single or twin engines) and five sizes (7, 8, 10, 12 and 15 ton), there is a style and size exactly suited to your individual requirements. Pneumatic scarifier can be attached to the 10-ton and larger sizes, as shown in the photographs.

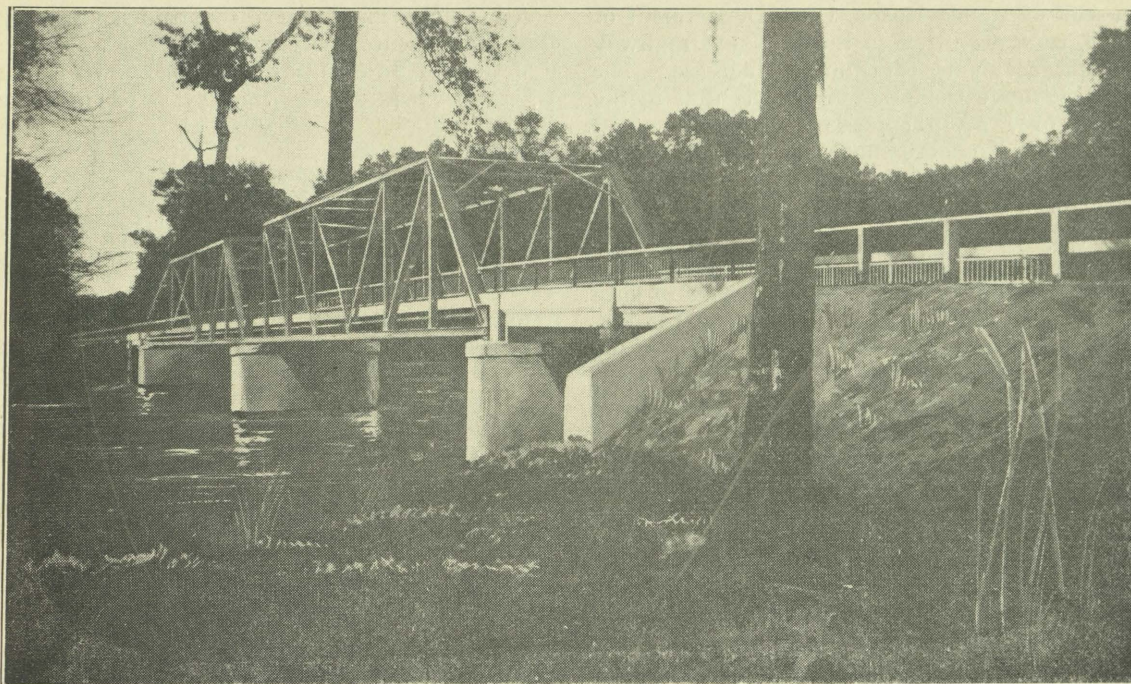
Special Catalog FH tells the whole story of Austin Motor Rollers. Write for your copy today.

The Austin-Western Road Machinery Company

CHICAGO, ILLINOIS

Northern and Southwestern Florida Representative, ROSCOE KENT, Orlando, Fla.
East Coast Representative, L. D. LLEWELLYN, Suite 214, Bedford Bldg., Miami, Fla.

Allapaha River Bridge



Federal Aid Project 7-B, Hamilton County.

An extra mile of road with 500 vehicles per day costs \$18,500 per year extra, representing a 5% interest on \$365,000. The use of the 3-mile detour for 3 months looms up the total of \$13,500 expense to those forced to travel the longer distance simply during the construction of a main section of road.

A study of figures like these makes it plain to the layman that it is sometimes economical to buy expensive roadway rather than to continue to use even good highways already constructed but needlessly long in route. It will explain why it is sometimes economical to buy new right-of-way and build a new road rather than to detour traffic while the old is being rebuilt. Figures like these will explain many things that may, to the layman, seem much like needless expenditure, but which, when considered in the light of the traffic census and transportation cost data, make the action highly economical.—Iowa Service Bulletin.

A million dollars spent in Hardee county, Polk's next-door neighbor to the south, for the construction of permanent highways, ought to get Hardee out of the mud and put it in the class of progressive counties of Florida boasting of real roads. By a vote of almost two to one, the voters have declared themselves in favor of a bond issue of \$850,000, which amount, added to that now being spent on State Road No. 2 running north and south through the county, will bring the total up to more than \$1,000,000.—Lakeland Star-Telegram.

ROAD CONSTRUCTION IN UNITED STATES SHOWS BIG GAINS

(Continued from Page Thirteen)

tracted for 714.26 miles at \$21,152,315.80. Iowa spent on its roads last year a total of \$31,500,000.

A total of 235 miles of road will have been constructed by the Indiana State Highway Commission by the end of this year, according to John D. Williams, director of the state highway department. Projects now under way, to cost \$2,254,131, now include among other types 2 miles of sheet asphalt on concrete base, 2 miles of bituminous concrete, 2 miles of Kentucky rock asphalt, 1 mile of bituminous macadam on waterbound base, 3 miles of waterbound macadam, 10 miles of gravel and 1 mile of stone. Forty county projects are being carried out under state approval and inspection.—Highway Engineer and Contractor.

In 1922, according to the figures from U. S. Bureau of Mines, the production of gasoline in the United States was 6,202,234,613 gallons, and the domestic consumption was 5,382,504,177 gallons; the excess of supply over demand being 819,730,436 gallons.

It's funny how a car that will do seventy-five on the open road won't go over thirty when its owner gets into court.—Georgia Highways.

PREVENTIVE MEASURE FOR INCREASING ROAD ACCIDENTS

The Bureau of Public Roads, U. S. Department of Agriculture, calls attention to the fact that highway grade-crossing accidents continue to increase. The Interstate Commerce Commission reports that in the final quarter of 1922, 517 persons were killed and 1710 injured at grade-crossings, an increase of 16 fatalities and 105 injuries in comparison with the same period of the previous year.

There is only one safest way to prevent accidents where highways and railways intersect. That is by a complete separation of the grades by means of subways or viaducts. There has been agitation for legislation in a number of states to require all users of the highways to stop before crossing a railroad track. A few states have enacted such laws. The general application of such a law covering all of the railroad crossings in any state leads to absurdities and unnecessary inconvenience. For example, one of the principal state highways leading west out of Raleigh, N. C., where such a law is in force, crosses a branch line of a railroad running into the state fair grounds. This switch track is used for only a few days each year at the time of the state fair, but under the law all the traffic over one of the principal highways in the state must stop at this crossing 365 days per year.

Such laws should be regarded as temporary expedients only. Hundreds of branch line railroads carry only a small percentage of the passenger traffic now carried by the main line highway which they cross. If either traffic is to be halted at the crossing it should be the rail traffic. Right-of-way is given the most important traffic on the railroads. This is a fundamental principle of operation, and this same principle should be recognized by the state in making any laws with reference to stopping traffic at railway and highway intersections.

Undoubtedly trunk line railways should be given right of way and the highway traffic stopped but branch line railway traffic lies in a different category entirely. The highway traffic over important state trunk lines should not be stopped at branch line railway crossings. Rather, the infrequent trains should be stopped before crossing such highways.

Agitation for stopping highway traffic at railway crossings, however, is having its effect in rapidly crystallizing public sentiment against all grade crossings, and this will lead to the only right solution of the matter—that is, the separation of the grades.

In the construction of Federal aid roads the Bureau of Public Roads has adopted the policy of eliminating grade-crossings wherever practicable, if possible by relocation, otherwise by means of an underpass or overhead crossing, and to this end an engineering investigation is made of every crossing and a great many have already been eliminated. Costly structures are required but there is no doubt that the policy has resulted in the saving of many lives.—The Highway Engineer and Contractor.

Good roads are to be urged principally for the same reason that good schools are maintained—because they increase the intelligence and value of the citizen to society.—The Dixie Highway.

RECONSTRUCTION BEGUN ON BATES EXPERIMENTAL ROAD

All traffic has been discontinued, investigations and experiments completed and the work of reconstruction begun on what has been known for the past 3 years throughout the country as the Bates experimental road.

The Illinois test road, 2½ miles in length, comprises in all 68 sections of various types of pavements, 63 of which were constructed in 1920 and 1921 and five of which were laid last fall. In addition to the many investigations which have been conducted along the lines of subgrade moisture, bearing power, distribution of load, crack development, slab movements under temperature and load and slab stresses under all types of load, traffic runs have been made which were the most inclusive as well as the most conclusive tests in determining the durability of various types of pavements under actual service conditions.

In the 2 years during which these runs have been made, traffic has been imposed in loads varying from 2500 to 13,000 lbs. per rear wheel, increasing from the lower to upper limit in increments of 1000 lbs. Several sections of non-rigid type were totally destroyed under traffic of less than 100,000 tons, while others were practically intact after the application of 1,000,000 tons. The carrying capacities of all sections varied between these limits in approximate proportion to their thickness and type of design.

Since the Bates experimental road is to become a section of Route 10 of the state bond issue system, it is necessary to abandon the location for an experimental road and rebuild this section for public traffic. Construction has already been completed up to both ends of the road.

A report summarizing the results of all traffic tests is being assembled and will be made ready for distribution during the coming month.

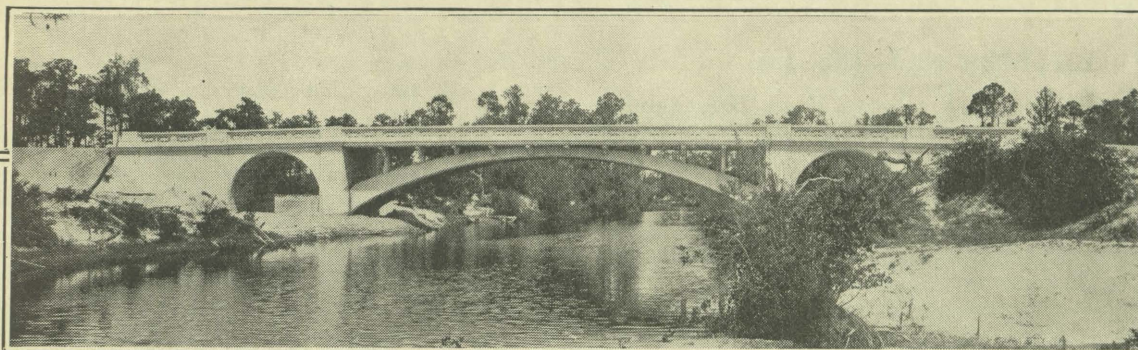
The final destruction of the Bates experimental road marks the completion of the greatest project in highway research yet attempted. The progress of the test was viewed with interest by all engineers connected with highway work and the results have been of inestimable value, not only to Illinois and the states and municipalities throughout the country, but to the highway organizations of many foreign countries.—Highway Engineer and Contractor.

To abandon the building of good roads would be comparable to a person starting to crawl after he had once learned to walk.—Exchange.

QUARTERLY MEETING

The quarterly meeting of the State Road Department will be held at Tallahassee January 25-26, 1924.

This is not the meeting at which the Department holds the public hearing on the proposed budget of work. See editorial, page 2, and Budget Law, page 20.



Another reason why Florida builds her roads and bridges with

Florida recognizes the truth of that wise saying, "A road is no better than its weakest bridge." The Little Manatee River Bridge, near Wimauma, in Hillsborough County, between Tampa and Bradentown, shows what can be done when skilled bridge builders work with the right materials.

**"ENSLEY" & "ALA CITY"
BASIC SLAG**
CRUSHED & SCREENED

This beautiful concrete structure was built in 1923 by the Luten Bridge Co. (Palatka, Fla.) under supervision of the Florida State Road Department. Total length of the three spans and paved approaches, 215 feet. Yes, the builders used No. 34 "Ensley Basic Slag" in both the reinforced and monolithic sections.

BIRMINGHAM SLAG CO.

Slag Headquarters for the South
ATLANTA BIRMINGHAM THOMASVILLE

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NEW TOURIST CAMP OPENED BY THE MIAMI MOTOR CLUB

One of the largest and best equipped auto tourist camps in the South was opened by the Miami Motor Club on November 15.

The camp is situated approximately five miles from the heart of the city, in forty acres of pine knoll, and contains septic tanks, running water, electric lights, and many other conveniences for the exclusive use of automobilists carrying camping equipment.

A custodian is on the property day and night. Each tourist car will be permitted to remain in camp two weeks, and a small fee, either twenty-five or fifty cents a night, will be charged. Regulations, in pamphlet form, will be given to the head of each party. If they are not complied with, the custodian, who is to be appointed a deputy sheriff, will order them to leave.

Signs pointing out the location of the camp will

(Continued on Page Twenty-One)

Important Convention To Be Held in Albuquerque

Birmingham, Ala., Jan. 5, 1924.—(Special.)—Most active work is going forward at the permanent headquarters here in Birmingham of the United States Good Roads Association, Bankhead National Highway Association and United States Good Roads Show to make the annual meetings of these organizations at Albuquerque, N. M., May 26 to 31, 1924, wonderful successes. Invitations have been sent to Governors, Senators, Congressmen, State Highway Commissioners, County Road Officials and leading good road advocates throughout the nation, urging them to attend.

That this is to be the most important convention ever held in the United States on the subject of good roads is attested by the fact that the three organizations named are already planning to make the meetings a history-making event.

The largest crowd of good roads boosters ever assembled in America may be expected in Albuquerque.

The United States Good Roads Association has a

membership in every state in the Union, and on its board of directors the governors of over forty states and prominent men the country over are actively engaged in the work of the association. The Bankhead National Highway Association has a membership in thirteen states through which the highway traverses, and its membership is approximately 25,000.

The United States Office of Public Roads has for the past seven years maintained exhibits at the United States Good Roads Show. It is expected that the exhibit at Albuquerque will be larger and better than any previous exhibits. Leading good roads machinery, material, truck and tractor manufacturers and dealers are planning and have reserved space at the show.

Temporary headquarters will be opened at Albuquerque, N. M., early in February, where Mr. J. A. Rountree, Director-General of these Associations, assisted by a staff of assistants, will direct the activity of these organizations until after the conventions.

THE CONCRETE ROAD

I am a concrete road—a thoroughfare of human endeavor.

In the years to come no man can say where I begin and where I end—I shall go everywhere and come back again.

I bring the bounty of the soil to the canyons of the city, and take back to the countryside the reward of effort—a livelier joy in life, a more progressive standard of living—and I bring the dweller of the city back to the forgotten flowers of the field, to sweeping green fields and arching blue sky.

By my side spring up prosperous churches and schools, and better homes.

I lead humanity over the hills to a new age—the age of co-operation, understanding, helpfulness.

I shall conquer the waste places, bringing security, comfort, ideals to the remote places of the world.

I shall clip the wings of time that he shall not fly so fast.

I shall annihilate wastefulness that there shall be plenty.

I shall be the burden bearer of humanity—that the rewards of life shall be greater and its labor less.

—B. K. Burns.

The above has been sent out by the Koehring Company, Milwaukee, manufacturers of pavers, mixers, etc. It is printed with colored artistic border and enclosed in a frame 17x22 inches.

NEW TOURIST CAMP OPENED BY THE MIAMI MOTOR CLUB

(Continued from Page Nineteen)

be placed on the Dixie Highway north of Miami and will guide those desiring to drive to it. Salesmen, entertainers and peddlers will not be permitted to stop at the camp. Co-operative stores will not be permitted, but such facilities for fresh food, gasoline

and supplies are available in Hialeah, less than a half-mile from the site.

“Miami is the greatest tourist city in the South,” said W. S. Maxwell, secretary of the club. “Every winter we have hundreds of camper visitors. Facilities provided by private parties have been entirely inadequate. The forty acres will be large enough to handle several hundred cars. We urge campers to stop here, and offer them the best possible to obtain.”—American Motorist.

HIGHWAY FINANCE

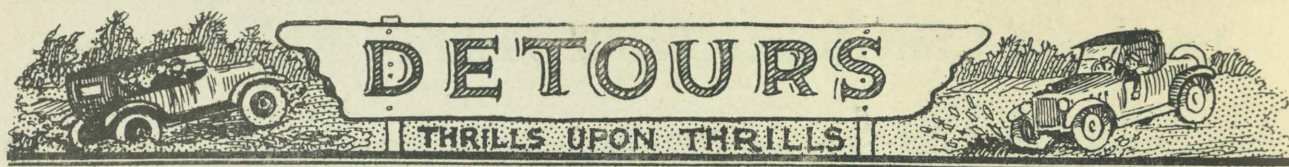
By Thomas H. MacDonald

“Plan now the financing of highways for the future and place highway transportation, which has come to be an indispensable part of our national life, on a firm foundation.”

This is the advice given by Thomas H. MacDonald, Chief of the Bureau of Public Roads, United States Department of Agriculture, for the consideration of every voter, taxpayer and legislator.

“We are starting out to construct a system of highways such as no nation ever constructed before. The nearest approach to it is found in France and Germany, and the area of neither is as large as Texas. This great undertaking is being entered into because highways are not a luxury, but furnish a real service, have a real earning capacity, and have become a national necessity.

“For such an undertaking to be successful, financing to care for maintenance, reconstruction and new construction should be planned for a long period of years in advance. Changes in methods of raising funds every few years, uncertainty as to whether funds will be provided and periods in which funds are not provided, all increase the final cost of highways. Such a policy would soon bring any private business to disaster.”



Delicately Nurtured

It was a hot day and seven cars were waiting their turn at a filling station. The last one was a steaming little 1915 Rattler, with six rattles and a button. Finally it got its turn (even a Detroit worm will turn), and the peevish attendant yelled:

"How many gallons?"

The driver of Lizzie held up one finger.

"Say," bellowed the attendant. "What are you tryin' to do? Wean it?"—The American Legion Weekly.

Motorist (arrested for speeding)—"Good morning, Judge. How are you this morning?"

Judge—"Fine! \$25.00."—Fairfield Motorist.

Oh, What's the Use?

I envy Adam
For his Eve;
She never giggled
In her sleeve.

—St. Augustine Record.

I envy Noah
For his ark;
It never lacked
A place to park.

—Macon Telegraph.

I envy Balaam
For his ass;
He never had to
Buy it gas.

—Tampa Tribune.

And Moses, how I
Envy him,
When Pharaoh's daughter
Came to swim.

—Jacksonville Times-Union.

I envy Sampson
For his hair;
He never sat
In a barber's chair.

—Miami News-Metropolis.

How would you like to sit at St. Peter's right hand when he passes judgment on the road hogs and whisper the name of the place he ought to send every one of them to?—Exchange.

One-Sided Town

"What town is this?"

"I don't see no town."

"You are looking out the wrong side of the car."

—Stanford Chaparral.

Teacher—"If a farmer sold 1,470 bushels of wheat at \$1.17 a bushel, what would he get?"

Boy—"An automobile."—American Boy.

The Roads in Our Town

"Bumpety-bump," groaned the safety tread.

"Rattlety-bang!" cried the brake.

"It's a terrible thing," then squeaked the spring,

"An all-day sort of a shake!"

"Oh, where are we going?" the engine cried,

"My head is a-throbbing to burst!"

"I'll give it my veto," declared the magneto,

"This road's absolutely the worst!"

"Not much of a lark," then sputtered the spark,

"It's enough to drive one into fits!"

"It's nothing but jar," cried the floor of the car,

"I declare I am shaken to bits!"

"They ought to know better," remarked carbureter,

"This talking of fixing them's bunk!"

"Unless the road menders," chimed in all the fenders,

"Get busy—we all shall be junk!"

"I say this is fierce!" exclaimed a big Pierce;

"Worse than that," cried the Ford, "if you please."

"Now tell me what maker," put in Studebaker,

"Expected conditions like these?"

The Overland hurried—"I'm nervous and flurried,

"I tell you it's for from a joke."

"What a terrible fix," said a new Super Six,

"If the roads caused us all to go broke."

A National muttered, "They're horribly rutted

And full of big holes; at this rate

They will soon cease to be—"Roads at all, we can see,"

Interrupted a Cadillac Eight.

"I think it is really," began a big Velie;

"You're right, I am sure," said a Paige;

"I know how you feel," cried the Locomobile,

"I almost boil over with rage!"

—H. S. Osborne in Texas Highway Bulletin.

"Here, boy," said the wealthy motorist, "I want some gasoline, and get a move on. You will never get anywhere in the world unless you have push. When I was young I pushed, and that is what got me where I am."

"Well, guv'nor," said the boy, "I reckon you'll have to push again, 'cause we ain't got a drop of gasoline in the place."—Western Canadian Motorist.

Why the Joneses Bought the Car They Did

Because the salesman:

Laughed at Mr. Jones' jokes.

Told Mrs. Jones she **couldn't** have a daughter **that** old.

Told Susie Jones she looked like Mary Pickford.

Told Willie Jones he had a build like Dempsey.

Said the Jones baby took after both parents.

And only smiled when the Jones pup nipped him.

—The American Legion Weekly.

AN ABSURD QUESTION

Will the United States stop building cars, close up its factories and return to horse-drawn vehicles?

Absurd question! Yet there is only one alternative: If we are not to lose the economic and social benefits of motor transportation we must supply roads upon which the power vehicles may run.

It is impossible to separate the water from the wave, the gold from the bracelet, or the track from the locomotive. It is equally impossible to separate the road from the track, or the passenger car from the highway. They are halves of a whole; transportation is never vehicle alone or highway alone; it is both together.

Our roads are planned and built for a means of transportation which is gone. The earliest highways were for horse riders, the stagecoach came next, after which we had the buggy and the wagon. The narrow road, the steep grade, the soft surface were all admissible for these; none of them are suitable for the swift and powerful motor.

We have "improved" our highways—some of them—and widened a few, but we still build a road with the idea that it will "last" but a few years and need "constant repairs." We still build in widths predicated upon moving vehicles, and we still wind our highways up hill and down dale and around devious curves because it is "easiest" and "cheapest" so to do.

That era is gone. The new one is fairly here. We must either build our roads for our modern vehicles,

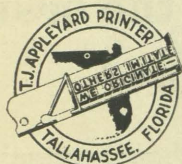
or scrap motor transportation. As the latter is unthinkable absurd, it seems logical to believe that the era of the wide, expensive, permanent, hard-surfaced road is here.—White Pine News.

ROAD BRIEFS

In order to perfect its highway system, Sumter county proposes to have another bond issue for \$650,000 to build the remaining sixty miles of road, which were unprovided for in the other bond issues.—Palatka Times-Herald.

The awarding of the contract for the new bridge at New Smyrna will come a little late as a New Year's present, but the people are satisfied with the fact that we will get the bridge, and that it will be completed during the coming year.—New Smyrna Breeze.

Grading has been started by the C. F. Lytle Company on the Wabasso-Sebastian section of the Federal aid Dixie Highway and the clearing of the right of way has been completed as far as Sebastian. The grading was started at the point where the new road leaves the old highway, and will be carried north so as not to interfere with traffic on the old road. The company has purchased a large number of mules, and the work is moving along rapidly. H. L. Clark & Sons, contractors for the Vero-Wabasso section, are now laying base rock northward from and also grading the right of way.—Vero Press.



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any Point**

Quotations on Request

SUPREME COURT DEFINES STATUS OF SAND-CLAY ROADS IN CONNECTION WITH THE STATUTE AUTHORIZING THE ISSUE OF BONDS FOR THE CONSTRUCTION OF "PAVED MACADAMIZED OR OTHER HARD-SURFACED HIGHWAYS."

(Continued from Page Seven)

the term "paved, macadamized or other hard-surfaced roads." If they are, this fund may be expended in their construction. If not, it cannot. This record discloses that reputable experienced engineers differ in opinion on the point. The term "hard-surfaced" as applied to roads probably has no technical significance. The Chief Engineer of the Bureau of Public Roads is quoted in the record to the effect that it has not. It should probably be regarded as a relative term. If so, a road, when surfaced with a proper mixture, or combination of sand and clay, suitable for such purpose, may, when compared with a road not so surfaced, be regarded as a hard-surfaced road. That many roads in this State have been improved by adding a surface of sand and clay, and that this combination of materials has in many instances been successfully used, resulting in excellent roads with firm, hard, compact surfaces, are matters of common knowledge of which courts take notice, and the legislature, in a recent statute (Chap. 7898, Acts of 1919) classified and defined "sand-clay" roads as hard-surfaced roads.

Because of the conflicting professional opinion and a practical experience tending to the contrary, it would not, we think, be in accord with sound reason to hold, as a legal conclusion, that a road surface, which may properly be classified as "hard-surfaced" within the meaning of the statute, is incapable of fabrication by an application, in

sufficient quantity and proper combination, of sand and clay suitable for the purpose. On the other hand, it is perfectly apparent that an improper or unbalanced mixture or combination of sand and clay; or what would otherwise be a proper combination, but of unsuitable material for the purpose; or an insufficient quantity, even though of suitable material and in proper combination; or a sufficient quantity of suitable material in proper combination but without adequate foundation for the proposed road or proper drainage when necessary, would not produce a hard-surfaced road in fact, and therefore not hard-surfaced within the meaning of the statute. These, however, are practical considerations of fact, depending for their solution upon each case as it arises.

It should, at this stage of the proceeding, be assumed that in accepting bids and awarding contracts for the work proposed, the defendant officers will require the use of such material, and a character of construction such as will comply with the terms of the law and the resolution adopted and notice published calling the election, to the end that the burden assumed will not be unproductive of the contemplated improvements and incidental benefits. The threatened injury is therefore not such as to require a holding that the court below erred in denying the application for a temporary restraining order. Nor was there error, upon the showing made, in holding against complainants upon the other branch of the case.

The order appealed from is affirmed.

Whitfield, P. J., and Terrell, J., concur.

Taylor, C. J., concurs in the opinion.

Ellis and Browne, J. J., dissent.

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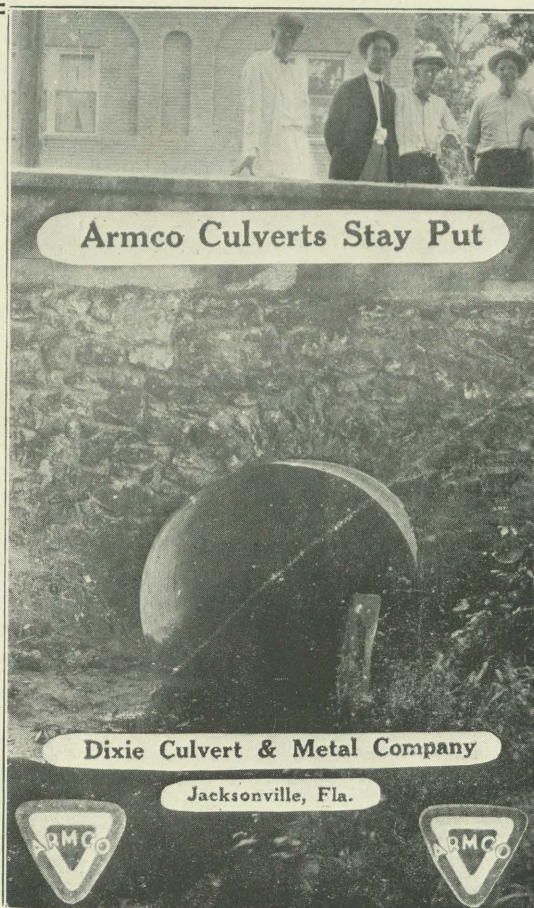
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